Federal Environmental Assessment Review Office
Bureau fédéral d'examen des évaluations environnementales

COMMISSION D'ÉVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITÉS DE VOL MILITAIRE AU LABRADOR ET AU QUÉBEC

ENVIRONMENTAL ASSESSMENT PANEL REVIEWING MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

Recueil des commentaires des experts techniques au sujet de l'Étude d'impact environnementale

Compilation of comments received from technical experts concerning the Environmental Impact Statement

Décembre 1989

December 1989

Canada

Information

90-06696/

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES) TEC-1

Reviewer: G. Graham

Date: 10 November, 1989.

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1	6.2.2	2-13	X		Attached
2	5.9	2-9to2-13 5-74	X		"

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 1

Reviewer: G. Graham

Guideline Section # 6.2.2

EIS Page(s) 2-13

Nature of Deficiency

The EIS is supposed to indicate whether the project will infringe on any individual or collective rights recognized in a number of legal instruments which are listed. The EIS does not mention any of these instruments in the previous sections it refers us to.

Rationale

The EIS should deal with these instruments specifically and explicitly, indicating how the project infringes on them. If he feels they have no bearing, the proponent should say what leads him to this conclusion.

* To be completed for each major defiency listed in Form A

G Graham
Signature

10 Nov. 1989
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Deficncy No. 2

Reviewer: G. Graham

Guideline Section # 5.9

EIS Page(s) 2-9 to 2-13; 5-74

Nature of Deficiency

The EIS cannot be said, in connection with Issue 5.9, to "identify clearly the direct, indirect, short term, long term, positive and negative impacts, with particular reference to the issues listed in 5.0" (Guidelines, p.31).

Rationale

5.0 refers to "the effects of the Project on the aboriginal and treaty rights recognized and affirmed in Schedule B, Part 2 of the Constitution Act 1982, including the effects on the process of negotiation and settlement of land claims."

For the effects of the project on aboriginal rights, the Concordance directs us to 6.18.2; this single paragraph does not in fact deal specifically with the matter of aboriginal rights at all, but rather with land claims under negotiation. On this subject this particular subsection is also inadequate.

As to the effect of the project on treaty rights, the Concordance once again directs us to 6.18.2 (p.5-74), which is once again inadequate.

* To be completed for each major deficncy listed in Form A

Signature G. Graham

Date 10 Nov. 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Deficency No. 2

Reviewer: G. Graham

Guideline Section # 5.9

EIS Page(s) 2-11

Nature of Deficiency

~~Rationale continued from page 1.~~

~~On the matter of treaty rights, we are also directed to 2.6.2~~ ~~This section deals with claims that have already been settled~~ in the project area, and gives the relevant Constitutional clause which defines existing treaty rights as including "rights that now exist by way of land claims agreements or may be so acquired", but does not deal with the question as to whether the claims which Canada has accepted as negotiable in the Project Area (CAM, NMIA and LIA), come under this category.

I feel compelled to draw the Panel's attention to the fact that although the Concordance does not so indicate, aboriginal rights are dealt with on p.5-12. Likewise, p2-11 of Subsection 2.6.1 discusses to some extent the effect of outstanding land claims

G. Graham
Signature

10 Nov. 1989
Date

* To be completed for each major deficency listed in Form A

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 2

Reviewer: G. Graham

Guideline Section # 5.9

EIS Page(s)

Nature of Deficiency

Rationale continued from page 2.

~~on developments in general, with little on the specifics of this project, e.g. possible withdrawal of weapons ranges on native land selection. In any case, the location of these matters in the EIS and the lack of reference to them in the relevant section of the Concordance underscore the extremely confusing and often misleading manner in which Issue 5.9 has~~

been treated. The fact that Figures 2-1 and 2-2 on pages 2-11 and 2-12 are reversed is a graphic illustration of the EIS's weaknesses in respect of 5.9.

In short, the EIS fails to clearly identify that which is required of it in Section 5.9 of the Guidelines, and this is a major deficiency.

* To be completed for each major defiency listed in Form A

G Graham
Signature

10 Nov. 1989
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

TEC-2

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: DR. N.S. NOVAKOWSKI

Date: NOVEMBER 14/89

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1.	5.0(3)	6-178		✓	no discussion of ~~ammonia~~ collected by snow no discussion of bio-accumulation
2.	6.3.3(x)	N/A		✓	not done by consultant
3.	6.4.1.4(iv)	4-44 4-54 (4.13)		✓	not done by consultant
4.	5.0(2)(b)	N/A		✓	see attached: Winter Operations etc.
5.	5.0(2)(b)	6.46		✓	see attached: Impulse Noise etc.
6.	N/A	N/A		✓	See attached: Typographical and technical Errors
7.	5.0(5)	4-44 to 4-54 5-27 to 5-36	✓		See attached: Furbearer Resource Use etc.
8.	5.0(2)(b)	4-44-54 6-45-47	✓		See attached: Noise Impact, Noise Attenuation etc.

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 1

Major Deficency No. 1 - #7 ON FORM A

Reviewer: DR. N.S. NOVAKOWSKI

Guideline Section # (5)

EIS Page(s) 4-44-54 & 5-27-36

Nature of Deficiency

NOT ADDRESSED BY CONSULTANTS

Rationale

PROBLEM QUOTED IN TEXT OF EIS AS WELL AS IN INTERVENOR REPORTS.

* To be completed for each major deficency listed in Form A

N Novakowski
Signature

November 14/89
Date

Major Deficiency - Number 7 On Form A

5.0 The Issues

Page 13 Guidelines

(5) the impacts of the Project on renewable-resource based commercial activities - commercial trapping of furbearers.

See: Chapter 4, pages 4-44 to 4-54, Section 4.13 Furbearers and Small Mammals
Chapter 5, pages 5-27 to 5-36, Section 5 1.6, Regional Resource Uses.

Problem: the consultants did not address the oft-stated concern of the Innu that low level flying drives away the game.

See: Furbearers Resource Use and Imputed Loss of Revenue

Furbearer Resource Use and Imputed Loss Of Revenue

The consultants discussion of furbearer resource use and revenues derived from trapping indicate that during the 1986-87 trapping season 5,447 marten were trapped in Labrador, which accounts for 75% of Labrador's $900,000 in fur revenues. The red fox accounts for $65,286, the lynx $37,000 and the beaver $23,471. Revenues from other species included the following: mink $32,950, otter $8,910 and ermine $8750. Such species as the muskrat and the red squirrel are of little consequence in the larger trapping picture.

As there is no system of accountability for trapping in Labrador, it is difficult to determine who caught what and where. Furthermore, although fur trapping is not a mainstay activity, it is important as a source of income, cash which can be used for initiating other activities (hunting or fishing). In that context, it has enhanced value. Consequently, on the assumption that low level flying may be responsible for driving the animals out of the area (as claimed by the Innu), the burden of proof rests with the proponent.

The EIS could have settled the matter on a technical basis, but the consultant did not see fit to do so. This is a glaring omission when the point is so central to the Innu intervention. Two alternatives other than the status quo (EIS) are possible:

1. return to the area and do some sound inventory work. Since the marten, red fox and lynx have comparatively small home ranges, radio-tracking of any or all three using a random selection of home ranges is feasible. Such work (inventory and radio-tracking) has been carried out successfully on marten both in Algonquin Park by the Ontario Ministry of Natural Resources and in northern Ontario by the Canadian Wildlife Service. More thorough review of the literature by the consultants might have resulted in providing some of the answers or learning something

of the methodology.

2. failing the above and in the face of continuing protestations from the Innu, the only honourable recourse left may be to make up the difference in terms of a cash outlay between what the Innu derive from trapping and what they think they should have received. Although this may seem like a deception on both sides, it is a form of indemnity which will over-ride science nine times out of ten. Such a scheme would require a judicious analysis of population trends (cycles) and averages, taking both over a period of many years in order to arrive at a fair settlement of the issue. If this is not done or if no inventory work is done, this focal issue will linger indefinately.

In summary, although I would rather put my faith in science to solve the problem, it is late in the day, perhaps too late. Consequently, Alternative 2 above should be seriously considered by the proponent because the statement that the planes are driving away the game will be heard at each and every community hearing (with the possible exception of Happy Valley).

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Page # 2

Major Defiency No. 2 - #8

Reviewer: DR. N. S NOWAKOWSKI

Guideline Section # 5.0 SECTION 2(b)

EIS Page(s) 4-44-54 & 6-45-47

Nature of Deficiency

Life history information on marten, fox, lynx and beaver inadequate -- for dealing with noise impacts.

Rationale

If the above species are not at risk to noise impacts as claimed by the consultants, then the data and logic base for such a finding is inadequate.

To be completed for each major defiency listed in Form A

N S Nowakowski
Signature

November 14/89
DATE

Major Deficiency: Number 8 On Form A

5.0 The Issues, Page 13, Guidelines

2 (b) - the effects of noise from military aircraft flying at subsonic and supersonic speeds on wildlife

See Chapter 4, pages 4-44 to 4-54, Section 4.13 Furbearers and Small Mammals. Subsection 4.13.1 Marten, 4.13.16* Fox and 4.13.6 Lynx.

* - should be 4.13.5 Fox - error in EIS text

Chapter 6, pages 6-45 to 6-47, Section 6.4.5, Subsection 6.4.5.3, 6.4.5.4 and 6.4.5.5

Problem: life history information on marten, fox, lynx and beaver is inadequate for dealing with noise impacts later on. Treatment of noise impacts on the above species is cursory and inadequate.

See: Noise Impact, Noise Attenuation and Seasonal Life Cycles in Furbearers, Classified as Valued Ecosystem Components.

Noise Impact, Noise Attentuation and Seasonal Life Cycles In Furbearers

The EIS considers the risk of project/furbearer interaction to be significant only for the marten, lynx , red fox and beaver. The life cycles of all of them are vastly different one from the other. A closer examination of those might offer 'windows of opportunity' for project operations with the potential for reducing noise-impact on those species.

Marten

The chronology of events in the annual life cycle of the marten was inadequately addressed in Chapter 4. The marten is primarily an arboreal species with a preference for mature forests. It is about in that habitat throughout the year and the young are born in leaf-lined nests. They are territorial with the feeding territory being somewhat less than one square mile.

Page 6-46, Subsection 6.4.5.3

Marten will be exposed to aircraft noise at any time of day or night because they cannot avoid repeated exposures because they are confined within their home range and cannot leave without infringing on another marten's territory. Even the young are unprotected because the nest is exposed. The only possible attentuation of sound might come from the dense canopy of a mature forest, but this has not yet been demonstrated. The risk is even greater when marten invade or occupy logged or burned areas. Therefore, for this species at least, the risk of exposure will not be lessened by their primarily nocturnal behaviour as

stated in the beginning sentence of the second paragraph of 6.4.5.3

Lynx

Page 4-50, Section 4.13.6

The lynx is typically a deep forest animal, although in Labrador and Quebec they are more common along river valleys. They occupy a home range of 6 to 8 square miles and are primarily nocturnal. They construct only rough beds under a rocky ledge, windfall or low branch; occasionally they enter caves. Presumably any one of such sites may be a natal site, where the young are born.

Page 6-46, Section 6.4.5.3

The exposure of the lynx to aircraft noise will be lessened by its nocturnal behaviour primarily because there will be much fewer night flights than day flights. During the day, some relief may be afforded from aircraft noise if indeed they rest during the day in the kind of 'rough beds' mentioned above.

Red Fox

Page 4-49-50, Section 4.13.6

The red fox prefers semi-open country and/or the forest edges. They are nocturnal in their feeding habits and generally occupy a home range of between 1.5 to 3.0 square miles. They are den dwelling animals for at least one half of the year where the young are born. Dispersal of the family unit from the den site occurs in early autumn.

Page 6-46, Section 6.4.5.3

The effect of aircraft noise is undoubtedly attenuated by the amount of earth above the den. The denning period may be somewhere in the period between March 1st to August 31st. At that time, because one of the members of the pair will have to hunt for food, their nocturnal hunting habits will lessen the risk of noise exposure for that member during that period. However, because of their propensity of semi-open spaces, the pair and any young are for the next six months fully exposed to direct (no attentuation) aircraft noise night and day within a relatively confining home range.

Beaver

Page 4-50 and 4-53, Section 4.13.7

The beaver spends its entire life associated with water bodies. Its home base is usually a lodge built above the water behind (upstream) an impoundment (dam) in streams or on a pond. The lodge is built of stems and branches and then plastered with mud in between. Within the lodge are chambers for resting and for eating. Access directly into the water is through a plunge hole. Access to food is from the water to land. Beaver are rarely found on land very far from water, their escape route. Although they may be most active between sunset and sunrise, their most intensive activity is during the evening and at dawn (hence crepuscular). With an abundance of food near at hand relatively little time is spent on land.

Similarly, from freeze-up to break-up, little or no time is spent outside the lodge or bank dens. The latter are dens in the

stream bank, below the water and/or ice line. Much of the winter is spent in a state of reduced activity within the lodge or the bank dens.

Page 6-46, Section 6.4.5.3

The exposure of the beaver to aircraft noise, because of their limited seasonal time spent on land, is negligible. The attenuation of the sound provided by the lodge, bank dens and water greatly reduces the risk of the invocation of the panic response.

Summary

The above includes all the species identified as valued ecosystem components (Table 6.8, page 6-17) within my purview. From my standpoint as a reviewer and as an advisor to the Panel, the cursory treatment given the 4 species discussed above with respect to their exposure to noise is inadequate.

At the very least, it is apparent that the 4 are not uniformly affected, but are on a sliding scale of risk, the marten being the most vulnerable, the beaver the least. Whether this is of great importance or not is unknown because no firm population figures were given by the consultants. The catch figures presented are the result of market driven forces and little can be deduced from that.

Minor Deficiencies

5.0 The Issues

Page 13 Guidelines, Section (2)(b) - the effects of noise (sound over-pressure) from military aircraft etc., particularly relating to: a. sub-nivean small mammal populations
b. the 'startle effect' in small mammal populations

(a). No EIS discussion of this matter. See: Winter Operations and Their Effect on Small Mammals.

(b). No meaningful EIS discussion re: small mammals. The EIS mentions only the effects of sonic booms on ranched mink, 6.4.5.4, page 6-46. See: Impulse Noise and Habituation in Small Mammals.

Winter Operations And Their Effect On Small Mammals

The effects of severe winter temperatures and snow on mammals exposed to ambient conditions has been well documented in the literature, as has the insulating effect of snow cover on sub-nivean animals. As well, there is some documentation on the effects of aircraft and aircraft noise on the larger herbivores such as caribou, muskox, moose and deer. However, scant literature exists on the smaller mammals. It is presumed, perhaps rightly so, that fur-bearers are well-insulated from the cold temperatures and probably that they are not hindered by snow in the event of a 'panic response.' This implies that energy expenditure may be not as significant for smaller mammals as it is for larger mammals that may be impeded by snow.

Nevertheless, the sub-nivean animals lack sufficient insulation in their fur such that exposure to ambient temperatures above the snow threatens their survival. Consequently, the snow cover has the effect of moderating ambient temperatures under the snow and similarly has the effect of attenuating noise from aircraft.

The above is the conventional wisdom derived from a review of the literature, although even this much was not provided by the consultants. The over-riding consideration beyond that point in our knowledge is:

a) what effect will overflights at low altitudes have on the snow canopy of dense forests? The canopy has the effect in winter of reducing heat loss from animals that use such canopies for cover during resting periods. It can be presumed that with such tree species as black or white spruce, the snow accumulation on them may be considerable. This would increase the efficiency of the heat conservation system.

b) would sonic booms similarly have any effect on the snow cover of the canopy?

c) many of the sub-nivean species of voles, lemmings and shrew spend the entire winter under the snow at ground level where they utilize herbacious material for nests and for food in the case of voles and lemmings. Equivalently, the shrews utilize herbacious material for nests and eat insects (generally over-wintering pupae). All the above are major food items for the marten and the red fox and marginally for the lynx. The predator must penetrate the snow to get at them.

In many areas where the snow cover is suspended by vegetation or where loose powdery snow forms the base of denser (thus heavier) snow above, such conditions lend themselves to instability or collapse due to certain external events which may be climactic (freezing rain, wind) or vibrational. In the latter (usually caused by man), the collapse exposes many of the sub-nivean animals to ambient temperatures. If it is cold, they die rapidly or are otherwise taken by predators. The vibrations may be caused by tracked vehicles (bombardier, caterpillar tractors) and the result of such a collapse is rather spectacular to witness.

The question remains whether the noise over-pressure of low flying aircraft is sufficient to collapse suspended snow in open areas (sedge-meadows in particular) and whether sonic booms can do so as well. No biomass studies of small mammals was done by the consultant, although Technical Report 4-D alluded to a small mammal decline in Labrador and northeastern Quebec. It is assumed that the population of small mammals will recover and that the threat posed (however small) by overflights over snow-covered terrain may hamper such recovery.

In any event, when Component 1 is at the maximum level (March 1 to December 1), flying over snow covered terrain will add a new dimension to the project. It was mentioned, but not elaborated

upon for moose (pages 6-39-42), caribou (pages 6-23-39), black bear and wolf (pages 6-43-45), but not furbearers or small mammals. In this context, it was an oversight.

Impulse Noise and Habituation In Small Mammals

There is evidence from research done during the Mackenzie Valley Corridor Study that mammals can habituate to steady-state noise. There is also evidence in the research literature that mammals do not respond well to impulse noise and that each such noise is a separate event in their reaction to it.

Most of the aircraft and ordnance to be used in the Project is capable of delivering such impulse sound, particularly the following: low-flying aircraft, high-flying supersonic jet aircraft (sonic boom), helicopter (blade slap) and exploding ordnance such as rockets, bombs or cannon.

There is also evidence that the single startle event (a) elicits a panic response and (b) poses no residual physiological damage. This has been tested by the University of Minnesota in red foxes who were instrumented for heart rate, respiratory rate and deep body temperature.

Discussion of the above issue was not adequate in the EIS report.

Military Flying Activities in Labrador and Quebec

Errors - typographical and technical

1. Technical Report 4-D. Page 18, see reference Hawley and Newby (1957) with reference to marten decline in Montana. Should not the proper quote be Weckworth and Hawley (1962)?

2. Technical Report 4-D. Page 1, first complete paragraph right side reference Phillips and Trimper, 1987 is used. In the Literature Cited, page 21, it is Phillips and Trimper, 1988.

3. EIS, page 4-25, section 4.10.1: the subspecific designation R. t. caribou must also be italicized.

4. Subspecies designations for the beaver, page 4-50 - 4.13.7:

a) all taxonomic designations should be italicised. Otherwise, when used as they are in the text (standard print), they must be underlined.

b) the correct subspecies designation for (1) is C. c. labradorensis, not C. c. labradoricus.

c) in 3), the subspecies designation was omitted. It should be C. c. canadensis.

5. Page 4-53 (continuation of 4.13.7. Beaver) - bottom of third full paragraph 'primarily as a region designated for native trapping' said twice in the same sentence.

6. Page 4-54, 4.13.11 Red Squirrel. Omission of habits and habitat.

7. Page 4-112. Literature Cited. Rawe, J.S. 1972, same reference as Rowe, J.S. 1972. The latter is the correct one.

8. Page 6-46. Line 4 from top should read sources rather than source.

9. Page 4-49. Subsection 4.13.5 Wolverine should be 4.13.4 Wolverine. All following subsections of section 4.13 are subsequently mislabelled.

TEC-3

From Dr. V. Geist
6140 Dalmarnock Cr. Nw.
CALGARY, Alta.
T3A 1H2
403-288-1508

To Dr. M. H. Sadar
Chairman, EIS Review Coordinating Committee
Federal Environmental Assessment Review Office
13th Floor, Fountain Building
HULL, Quebec
K1A 0H3

November 15, 1989

Subject: **Identification of major deficiencies in GOOSE BAY EIS, Chapter 6, Project Impact.**

Dear Dr. Sadar,

I have received the GOOSE BAY EIS and have read the portions pertaining to impact on wildlife, in particular those dealing with caribou. Due to an oversight the relevant technical reports were not sent to me at once. In view of the time constraints my letter to you will deal with major deficiencies only. I cannot in the time alloted trace the literature cited, in particular the reports not published in the scientific press. Nor may it be appropriate currently to bother the panel with a list of minor flaws, which collectively are not trivial.

The major deficiencies I identified are:

1. the EIS deals inadequately with the effects or consequences of day and night time low-level overflights by jet propelled fighter aircraft on Labrador caribou. The EIS provides only a literature review without any independent, substantive research. Moreover, the review suffers from a number of flaws (as

discussed below), including references to work in progress, or personal communication. Such references are unverifiable and must be accepted on faith. We remain uninformed on the effects of military low level overflights on caribou, and the literature review's cautious, hedged conclusions that there may be little consequences is unsubstantiated. This, despite the acknowledged importance in the EIS of caribou to the economy and lives of citizens of Labrador, despite adequate time for research, and despite the available relevant technologies.

2. As a member of the scientific panel I am aware that some scientific work on caribou harassment and consequences was undertaken. I find no mention of this in the EIS. Is this an omission because:

a. the work in question was never completed?

b. the results were judged to be disappointing and inadequate?

c. the results were embarrassing to the client and were suppressed?

One cannot escape the impression of some sort of a coverup, and the panel ought to be informed of the reasons for not reporting the research.

Let me elaborate:

1. The literature review's contention is that caribou herds regularly overflown by military aircraft in Alaska have not suffered and are increasing (p. 4C:3-5).

Using the same logic one can point to the George River herd

in Labrador, which, regularly overflown by the military, is now declining.

The low mortality of the Alaska caribou herds may be, for all that we know, related to low hunting and predation mortality. Maybe Alaska wolves, subjected to aerial hunting to control their numbers, are avoiding areas of intense aircraft activity, which allowed an unusual escapement of caribou calves. Caribou from an increasing population are expected to be healthy and robust. Not so George River caribou. These caribou show a decline in growth. Moreover, following tissue analysis done by the Newfoundland game department, Labrador caribou may be suffering from cadmium poisoning (ultimately due to acid rain). The cadmium levels in livers and kidneys of Labrador caribou are much too high for human consumption. In short, one cannot generalize from the Alaska to the Labrador situation, going on inadequate evidence (acknowledged as such by the consultants) and ignoring the high probability that the Labrador caribou are a stressed population. That George River Caribou are declining in development was discussed by Professor J. Huot, Laval University, at the 4th North American Caribou Workshop, St. John's Newfoundland, Oct. 31-Nov. 3, 1989.

In Labrador, based on current information, we are dealing with a declining herd, living on an acid rain area and contaminated by heavy metals. This means, one is dealing with physiologically stressed animals. Here the overflights must be considered <u>additive</u> stressors (the proverbial last straw?). None

of this is considered in the EIS. Why not?

2. The literature review treats overflights as additive and linear in their effects on caribou. However, such cannot be the case if caribou are subject to habituation as they, clearly, are. The effect disturbances on caribou is curvilinear, at first rising and then declining with added disturbance. Once habituated the animals will ignore severe stimuli as my associates and I verified, for instance, via heart rate telemetry in bighorn sheep (duly reported in the EIS). In non-habituated individuals the same stimulus (helicopter overflight) causes sustained panic responses for hours after the helicopter left. We verified this also via heart-rate telemetry in bighorn sheep (not reported in the EIS, unfortunately). We do not know to what rate of overflights (and to what modifying circumstances) caribou habituate to, nor what is the cost to the animals till habituation does take place. To cite an observation, that confined caribou habituate to overflights in four days, in support of the notion that overflights are harmless, is to misunderstand habituation. Confined animals, unable to run away, learn quickly the futility of escaping. That's different from habituation. What needs to be known is how many overflights over unrestrained caribou are required before they ignore the overflights or show no elevation in heart rate.

3. The literature review equates responses to overflights as being no more severe than responses to predators. In ruminants that I studied responses to predation have been severe. Mule deer

completely disrupt rutting activities in response to pack-hunting coyotes, at first moving to hiding places well removed from commonly used areas and finally leaving their home ranges, not to return for weeks. Mule deer also left for distant abodes if a mountain lion was sensed. Bighorns can be kept for days mired in cliffs by pack-hunting coyotes; mountain goats disrupt feeding and move to cliffs upon hearing a wolf howl. Moose vacate wintering yards upon hearing wolf howls and show signs of panic, such as urinating on the run. Mountain sheep vacate a range for days following visits by a wolf pack. There is nothing benign about responses to predators by northern ruminants.

4. The argument that factors other than overflights may affect caribou more is plausible, but not sustainable from the evidence in the review. No work was done to determine the effects of military overflights on caribou (though at the University of Alaska heart-rate telemetry work is pending).

a. the EIS reports nothing on the effects of nocturnal low-level overflights

b. we read nothing of diurnal overflights with jet aircraft.

c. the review of overflights with piston driven fixed winged aircraft and helicopters is based in part on early pilot studies from the days of the Berger Commission hearings. These studies were considered methodologically inadequate even then. They have not improved with time!

5. References to personal communication and work in progress

is, under current circumstances, not acceptable as it is beyond verification by the reader. The panel is entitled to know what are the results that are being cited in support.

There are other concerns that can be raised with the EIS, but such can be relegated to a later communication. However, the authors of the literature review appear well aware of the weakness of the available material as they carefully hedge their conclusions. To their credit they did a fairly comprehensive review that covers most of the relevant subject matter.

Sincerely yours,

V. Geist

F.E.A.R.O.
B.F.E.E.E.
File Ref:
NOV 1[illegible] 1989
REC'D / REÇU

TEC-4

Victor E. F. Solman, Ph.D.
BIOLOGIST

614 DENBURY AVENUE
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613-722-3691

Nov.16,1989

Dr. M. H. Sadar
Chairman, E. I. S. Review coordinating Committee, Goose Bay Low Flying.
13th Floor Fontaine Building
Hull, Que. K1A OH3

Dear Dr. Sadar:

Thank you for your letters of Sept. 1 and Nov.9,1989, for the Statement and Summary, for our personal and telephone discussions and for Technical report 2.

As I mentioned on Nov.9 I have two concerns.

1. While furnishing information on trace elements the Statement (Table 6.23) contains no reference to samples from either the eastern or western corridors which connect the L.L.T. areas. Figure 3.2 shows that in the eastern corridor, in 1987, there were up to 250 flights per month over an area about 2 miles wide (the corridor is 7 nautical miles wide). Lichens may accumulate materials for decades before being eaten by caribou which, in turn are important human food. Paragraph 1 on page 26 of the summary says "There would appear to be no reason to believe.....that low flying is contributing significantly to bio-accumulation of trace metals in caribou or their predators". I believe it is too soon to make such a statement and that long-term monitoring of trace metals in lichens below concentrated -use low-flying areas should be carried on.

2. Collisions between low flying military aircraft and birds will continue to occur(14 strikes per 10000sorties projected in 6.9.1). A Geographic Information System (7.2.1) is proposed to be operated by an Environmental Officer. I believe it should include the location, date, time and species involved in each bird strike on training aircraft operated by Canada and all other users of the L.L.T and corridor areas. Over time strike patterns may become apparent which may suggest avoidance of certain areas and times to reduce the risk of bird strike damage to or loss of aircraft.

While the items mentioned above probably do not fall within the concept of deficiencies I believe they merit consideration.

Yours sincerely,

Victor E. F. Solman.

Victor E. F. Solman

TEC 5

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: Prof. Joel J. Sokolsky, Queen's University

Date: 16 November, 1989

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1.	6.2.2.2	2-3 to 2-4		x	as attached
2.	6.2.4	2-7 ff and Ch. 3		x	" "
3.	6.2.4	2.3.2.3		x	" "
4.	6.5.ii			x	" "

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

ENVIRONMENTAL ASSESSMENT REVIEW PANEL (EARP) REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

Supplementary Comments to
Preliminary Assessment of the Environmental
Impact Statement (EIS)-Military Policy

"Additional Remarks", Form A.

Deficiency 1.

With regard to justifying the current and future flying activities at Goose Bay the EIS notes Canada's "responsibilities" to the North Atlantic Treaty Organization (NATO) which it undertakes as part of the "privilege of membership". The Alliance does depend on members' readiness to assume a share of the burdens for collective defence. However, all allies are free to choose how much and how little they contribute. Canada is not obligated to provide NATO with training facilities. That it does so, is important but not a necessary condition for continued Canadian participation in allied military and political affairs. Moreover, the allies pay for the use of Canadian facilities and will do so under the proposals examined in the EIS. A further note on Canada's "responsibilities" to NATO: the cancellation of many of the 1987 White Paper's plans to improve Canada's contributions to the Alliance is not mentioned. This may be a small point but it was a signal to allies that Ottawa, like other NATO members, (including the United States) recognizes that there are limits to responsibilities.

Deficiency 2.

The EIS does discuss future phases of development at Goose Bay and it also notes a number of current military usages unrelated to low-level flying activities. However, as the EIS itself notes in section 3.2.1 (p. 3-36), the NATO Tactical Fighter Centre (NATO Centre) "is, at present, no more than a concept". Thus while the training itself can be fully justified given the importance of air power to the Alliance, the EIS has the difficult task of justifying a solution to NATO's problems which cannot yet be fully defined.

Deficiency 3.

The EIS does not elaborate on Konya, Turkey as an alternative to Goose Bay for the NATO Centre. This is the alternative which the NATO staff is looking at and it would be useful if the Panel were to have more information on the relative merits of the two sites and factors NATO is weighing.

Deficiency 4.

The EIS does not deal directly with the likelihood that improvements to the infrastructure would alter its operational status in time of war and would render it a likely target for attack. Here, the EIS actually misses an opportunity to counter an objection to location of the NATO Centre at Goose Bay. Goose Bay was a much more attractive target in the late 1950s when it was base for the Strategic Air Command. One of the attractions of Goose Bay for NATO is its distance from Warsaw Pact territory and attack in the event of a conventional war in Europe. Should a crisis or war occur allied forces at Goose Bay would likely try and get to Europe as quickly as possible. Canada would use the base for NORAD (North American Aerospace Defence Command) roles, but this would happen even if a NATO Centre were not located there. Similarly, regardless of the proposed improvements, Goose Bay would still be of value as a staging base for reinforcement of Europe. But the only scenario in which the base might be hit in war would be a nuclear war wherein North American is under attack. Goose Bay could be hit long-range Soviet bombers or, more likely, cruise missiles launched from Soviet submarines. But it hardly be a prime target nor, under conditions of strategic nuclear war, would it make a an appreciable difference.

General Observations

As indicated on the attached form, there appear to be no major deficiencies in the EIS sections dealing with military policy. The EIS covers the familiar and well known grounds for the need for low-level flight training at Goose Bay and the advantages to NATO of the projected NATO Centre. As long as NATO relies on tactical air power to sustain its deterrent posture, it will be necessary to train and the facilities at Goose Bay are among the best available for a multitude of training purposes. From a military standpoint the EIS does not over-state the case. Indeed, given the importance of air power to NATO, the EIS somewhat understate the military advantages of utilizing Goose Bay.

However, in NATO national and collective strategic decisions are not only made on strictly military grounds. Political and economic considerations are also important. From this perspective, the EIS may be overtaken by the rapidly changing political environment in Europe. This is not a criticism of the EIS, since it is very difficult to keep up with, let alone predict, what the impact of recent events will have on the NATO's policies. And section 2.4.3, "Geo-Political Environment" (p.2-7), acknowledges recent "promising developments". Nevertheless, any adverse environmental and/or social and economic consequences of increasing military activities at Goose Bay will be weighed against the need for such increases on the part of NATO. It is likely that the Panel will hear arguments to the effect that given recent trends in Europe, NATO (and potential users of the expanded facilities) do not need, and may in fact may no longer be interested in spending billions of dollars on this project.

Some current trends may have a bearing on NATO's need for a major tactical fighter training facility at Goose Bay:

* With regard to arms control, NATO and the Warsaw Pact are discussing major reductions in conventional forces, including tactical air forces. In July 1989, NATO proposed that both sides be limited to 5700 combat aircraft, (those designed primarily for air-to-ground bombing and air-to-air fighting operations). NATO indicated that it had 6700 such aircraft while putting the number possessed by the Warsaw Pact at 9600. The Pact puts the number of NATO aircraft at 7876 and its own at only 7130. It has proposed reductions to 1700 strike aircraft for both sides over a six year period from 1991-1997. Thus there are major differences between the two alliances on defining the types of aircraft to be included in any conventional arms control agreement.[1] Moreover, it is evident that NATO is seeking to preserve its relatively strong position in the air as a counter to Warsaw Pact ground

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[1] The Guide to Canadian Policies on Arms Control, Disarmament, Defence and Conflict Resolution, (Ottawa: Canadian Institute for International Peace and Security, 1989), pp.53-55.

forces. Thus it is likely that any successful conventional arms control agreement will preserve allied aircraft in Germany. However, larger reductions are possible and an overall conventional agreement could result in the withdrawal of sufficient numbers of allied aircraft from Germany to measurably ease the strain on low-level flights in the FRG.

*In general, the improvements in Europe could cool NATO interest in undertaking a major project such as the NATO Centre and might make the alternatives, at existing facilities more attractive. To this extent, how the costs of the NATO Centre are to be borne, (i.e. whether out of infrastructure or on a user basis) may become an important determinant of whether the project proceeds.

*The greater economic integration in Europe beginning 1992, combined with trends in NATO may make a major facility in North American less attractive to European allies who would want the economic benefits from such a project to remain in Europe.

It should be stressed again that, as the EIS points out, there will continue to be a need for the kinds of training now be down at Goose Bay and that which would be done at a NATO Centre as long as air power remains an important element in the overall allied conventional deterrent posture. The real question with regard to the NATO Centre is whether given prevailing international conditions and current trends major expenditures on the scale envisioned can be justified by the allies collectively and/or by individual governments.

Joel J. Sokolsky
Faculty Associate
Centre for International Relations
Queen's University

TEC-6

National Research Council Canada | Conseil national de recherches Canada
Division of Physics | Division de physique

November 19, 1989

Mr. M.H. Sadar
FEARO
13th Floor, Fontaine Bldg
Hull, Que
K1A 0H3

Subject: **Review of EIS for Identification of Major Deficiencies**

Dear Mr. Sadar:

I have reviewed the EIS on Military Flying Activities in Labrador and Quebec for the purpose of determining the extent to which it meets the requirements of the Guidelines prepared by the Panel. I have found no Major Deficiencies at this time. In fact, in my area, I was impressed by the thoroughness of the study. In general, the study appears to follow state-of-the-art engineering practices.

The only minor deficiency that I have listed is most likely the result of poor scientific notation. The reader must assume that all sound levels and metrics expressed in dB are in fact A-weighted decibels; except in the case of sonic booms, where the overpressures in psi are converted to C-weighted decibels. If this is not the case, then an explicit statement is required in each table, graph, and in each pertinent part of the text.

I will have completed a more detailed analysis of the EIS by the end of this year. In the meantime, if you require additional information, please do not hesitate to call me.

Yours sincerely,

Gilles Daigle

Tel: (613) 993-6188 (office)
(819) 568-7857 (home)

Ottawa, Canada
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Telex 053-4322

Canada

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: G. DAIGLE

Date: Nov 19/89

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1	6.3.1 x	20		✓	see accompanying letter

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

ssDcc

Centre
de recherche
et d'analyse
en sciences humaines

Consulting services
in social sciences,
development,
and culture change

TEC-7

Montréal, le 17 novembre 1989.

Monsieur Husain Sadar
Président
Comité de coordination de l'E.I.E.
Bureau fédéral d'examen
des évaluations environnementales
13ième étage, Edifice Fontaine
Hull (Québec)
K1A 0H3

Monsieur,

Veuillez trouver, ci-joint, le résultat d'un premier examen de l'énoncé des incidences environnementales préparé par le ministère de la Défense. Ainsi que vous le verrez dans notre rapport, nous estimons que le traitement du milieu humain est extrêmement décevant quand on le compare aux Directives de la Commission d'évaluation environnementale.

Ayant tenu à prendre connaissance des perspectives et méthodes de l'E.I.E. avant de passer à l'examen plus détaillé du traitement des populations concernées par le projet, nous avons identifié un certain nombre de lacunes qui en réalité sont toutes reliées les unes aux autres et qui découlent d'une réduction systématique du milieu humain. Cette réduction n'a rien de très étonnant si l'on considère que l'analyse repose sur une grande pauvreté de données. Nous estimons notamment que les informations recueillies dans la plupart des communautés n'ont pas été intégrées à l'analyse.

Comme vous le verrez nous n'avons pas eu le temps de faire le tour de tous les sujets qui nous paraissent constituer des lacunes majeures. Nous attendrons avant de poursuivre l'examen de l'E.I.E. que vous nous indiquiez si vous désirez voir traiter l'un ou l'autre des points non encore abordés.

En espérant que ce rapport pourra être utile à la Commission, je vous prie d'agréer, Monsieur, l'expression de mes sentiments les meilleurs.

S. Vincent

Sylvie Vincent

SV:sd

p.j.

6742, rue Saint-Denis, Montréal, Qué. H2S 2S2 • Téléphone: (514) 495-2485

ssDcc

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: ssDcc inc.

Date: 17/11/89

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Majors	Minor	
1	4.0(1)		*		Voir texte
2	5.0(4); 6.4.2(i); 6.4.2(iii); 6.4.2(v); 6.4.2(vii)		*		Voir texte
3	4.0; 4.0(4)		*		Voir texte
4			*		Voir texte
5	4.0(1); 4.0(6); 6.2.2; 6.2.3		*		Voir texte
6	5.0(1); 6.4.2; 6.5; 6.6		*		Voir texte
7	5.0(4); 5.0(5); 6.4.2; 6.5; 6.6		*		Voir texte
8	4.0; 5.0(4); 5.0(6); 6.3; 6.5(v)		*		Voir texte
9	5.0(4); 5.0(6); 6.4.2; 6.5(v); 6.6		*		Voir texte
10	5.0(2a); 5.0(7); 6.4.2(2)		*		Voir texte

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

Examinateur: ssDcc inc.

Commentaire d'introduction sur les lacunes majeures identifiées

A titre d'experts du milieu humain, le mandat qui nous était confié consistait à identifier les lacunes informationnelles et la pertinence des données présentées, plus particulièrement pour les populations de la région du Québec touchées par le projet du ministère de la Défense nationale. La recherche de ces lacunes nous a conduit à examiner le cadre conceptuel de l'E.I.E. C'est donc à ce niveau que nous avons choisi d'intervenir dans ce premier examen de l'énoncé. Nous avons identifié dix réductions principales qui affectent l'ensemble de la présentation du milieu humain dans ses dimensions sociales, culturelles et économiques. Nous les avons toutes qualifiées de majeures puisque, l'une dans l'autre, ces réductions sont la source des lacunes informationnelles mais également la source d'une impossibilité à saisir les dynamiques humaines que le projet viendra modifier, et de là, la nature des incidences. Chacune de ces réductions est commentée dans une fiche qui en explique le processus de réduction et en identifie les conséquences sur l'analyse du milieu humain. Ces réductions sont justifiées en regard des demandes faites aux termes des Directives de la Commission.

Expliquons brièvement ces réductions.

Après avoir exclu le milieu humain de l'écosystème (Lacune no 1), l'E.I.E. ampute ce dernier de sa dimension culturelle pour n'en considérer que l'aspect économique (Lacune no 2).

Parallèlement, les projets d'avenir des populations sont ramenés au seul projet du ministère de la Défense nationale (Lacune no 5) et la description de celui-ci est limitée à ses aspects techniques (Lacune no 8).

Ensuite, l'économie n'est considérée que par le biais de l'économie marchande, des investissements et de l'emploi (Lacune no 6) et l'utilisation des terres devient l'exploitation des ressources sauvages (Lacune no 7).

Et, tandis que le changement social n'est exprimé qu'en termes de problèmes sociaux (Lacune no 9), le bruit est ramené à un problème de faculté auditive (Lacune no 10).

Les deux autres lacunes majeures ne sont que signalées (Lacunes no 3 et no 4).

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B#

Lacune majeure no 1

Examinateur: ssDcc inc.

Directives # 4.0(1)

E.I.E.: Section 4.9

ECOSYSTEME

Nature de la lacune

La notion d'écosystème a été comprise comme n'incluant que les éléments jugés importants du milieu naturel et n'a pas été prise au sens large. Contrairement aux attentes de la Commission (voir "Considérations méthodologiques", p. 8), l'écosystème n'englobe donc pas de façon dynamique les populations humaines et tout ce qui participe à l'entretien de leur vie y compris leurs cultures. Ceci, d'une part conduit à occulter des composantes du milieu humain (voir Lacune no 2), d'autre part réduit la définition du milieu naturel lui-même en ne tenant pas compte des valeurs que les populations concernées accordent à ses diverses composantes (Directives 4.0(1)).

Justification

A leur début, les études d'incidences environnementales ont eu tendance à ne s'intéresser qu'au milieu bio-physique. Ce n'est que peu à peu que l'on a pris en considération le milieu humain et que l'on a adjoint aux études d'incidences un chapitre sur la question sociale et culturelle. Encore aujourd'hui ce chapitre est souvent malhabile (par exemple, il peut comprendre une longue partie historique qu'il est difficile de relier aux réalités présentes) et l'on peut dire que le traitement du milieu humain dans les études d'impact pose encore problème.

En ce qui concerne le projet de vols à basse altitude, la Commission d'évaluation environnementale a pris soin de cerner les milieux sur lesquels elle estimait nécessaire d'être informée. Si elle n'a pas voulu contraindre le promoteur dans l'utilisation d'une méthode d'évaluation des incidences (Directives, p. 8), elle a au moins clairement désigné l'objet de l'étude à faire et elle a indiqué comment on doit percevoir l'articulation de ses composantes:

> Il faut donner au terme "écosystème" un sens large afin qu'il englobe les populations humaines et leurs structures, systèmes, pratiques, institutions et valeurs sociales, spirituelles, culturelles, économiques et autres en tant que composantes d'un système d'entretien de la vie auquel contribuent l'air, l'eau, les minéraux, le sol, les plantes, les animaux et les micro-organismes (Directives, p. 8).

Or, comme on peut s'en rendre compte en consultant le tableau des concordances (Annexe III, p. III-1), les auteurs ne font entrer dans leur définition de l'écosystème que des éléments provenant du milieu naturel. A la directive 4.0(1): "déterminer, expliquer et justifier les éléments importants de l'écosystème" correspond en effet le point 4.9 de l'E.I.E. intitulé: "Les éléments naturels jugés importants" (nous soulignons).

Nous verrons plus loin la façon dont ces éléments ont été choisis. Dans un premier temps nous voulons attirer l'attention sur la place que l'E.I.E. réserve au milieu humain. Nous ne voulons pas dire que les auteurs ne l'ont pas pris en considération mais plutôt qu'ils ont examiné tour à tour le milieu naturel et le milieu humain plutôt que d'examiner le milieu humain dans sa relation dynamique avec le milieu naturel.

Pourtant les auteurs écrivent eux-mêmes:

> L'élaboration du cadre théorique d'une étude d'impact se fait par l'examen de l'interface entre les caractéristiques du projet et celles de la population concernée (E.I.E., p. 5-5, nous soulignons).

S'ils avaient réellement mis la population ou les populations concernées au centre de leur recherche, beaucoup de composantes du milieu humain apparaîtraient dans leur étude qui, ici, ont été évacuées tel que nous le verrons ailleurs (Lacune no 2).

De plus, et c'est le second point sur lequel nous voulons attirer l'attention, la définition du milieu naturel lui-même s'en trouve réduite puisqu'elle n'est pas informée prioritairement par les populations en question et par leurs valeurs. Selon Beanlands et Duinker,

> Toute interprétation de l'importance des incidences environnementales doit reconnaître que l'évaluation des incidences écologiques est essentiellement une notion anthropocentrique. Le processus d'évaluation /.../ fait finalement appel aux valeurs de la société pour déterminer l'importance des perturbations (Beanlands et Duinker, 1983: 49).

Pour sa part, la Commission d'évaluation environnementale écrit:

> Pour déterminer les valeurs culturelles fondamentales accordées à ces éléments, le promoteur consulte tous les groupes intéressés. (Directives, p. 9).

Et la Commission ajoute que si, ayant examiné ces valeurs avec soin, le promoteur s'aperçoit qu'elles divergent, il doit soit en choisir certaines et justifier son choix, soit présenter plusieurs analyses d'incidences qu'il basera sur chacune des valeurs relevées (Directives, p. 9).

Prenons comme exemple un élément du milieu naturel qui n'entre pas dans la liste des éléments de l'écosystème jugés importants par l'E.I.E.: la qualité de l'air. On sait que cet élément, tout comme la qualité de l'eau, fait partie des valeurs fondamentales des populations concernées et que, dans les entrevues, il ressort au chapitre des préoccupations de la population (Annexe 5B).

La qualité de l'air fait aussi partie des préoccupations des spécialistes et figure dans les demandes exprimées par la Commission d'évaluation environnementale (Directives, p. 28). Selon le promoteur, ce sont les renseignements recueillis auprès de ces trois groupes (population, spécialistes, Commission), qui lui ont permis d'orienter la description du milieu naturel (E.I.E., p. 4-21). Pourtant lorsqu'il doit juger de l'impact des vols sur la qualité de l'air, il utilise les "normes fédérales" et non les normes découlant des connaissances et des valeurs des populations.

Contrairement à ce qui lui était demandé (Directives 4.0(1)), le promoteur n'a donc pas pris en considération la valeur culturelle accordée par les populations concernées à la qualité de l'air et il n'a pas justifié cette exclusion, ce qui, à notre avis, découle du fait qu'au départ il n'a pas respecté la définition de l'écosystème fournie par les Directives (p. 8).

Ceci évidemment ne va pas sans conséquence. En excluant la qualité de l'air de la liste des éléments valorisés et en ne se basant que sur les normes fédérales, le promoteur peut minimiser les incidences du projet sur cette composante de l'écosystème. Ainsi, le fait que le taux de pollution dans la ville de Happy Valley - Goose Bay passe du niveau "désirable" au niveau "acceptable" avec quelques pointes au delà du niveau "tolérable" (E.I.E. 6.20.3.1) n'est pas considéré comme un impact, alors qu'il l'aurait peut-être été si le promoteur avait pris en considération les critères utilisés par la population pour définir la qualité de l'air.

La réduction de l'écosystème au milieu naturel et le fait de définir ce dernier sans tenir compte vraiment des différentes valeurs qui lui sont attribuées conduit, non seulement à éliminer des impacts possibles mais aussi, dans l'interface mentionné plus haut, à donner priorité au projet par rapport aux populations. Ceci veut dire que l'on aura tendance à évaluer les impacts en se basant d'abord sur les composantes du projet plutôt que sur la définition de l'écosystème fournie par la population (appuyée le cas échéant par l'expertise des spécialistes). Par exemple, plutôt que de définir la région à l'étude en cherchant à la faire décrire par les différents groupes qui l'habitent, avec toutes les oppositions et complémentarités et tous les niveaux que cela suppose, on la considérera comme composée d'une part d'un tandem base-ville en expansion et de l'autre de régions périphériques réunies

sous l'étiquette "survolées". Dans le cas qui nous occupe, et malgré la consultation de la population (sur laquelle nous aurons à revenir ailleurs, voir Lacune no 3) la description de l'écosystème a été davantage nourrie par le projet ou par la définition que l'on en a donnée que par les valeurs propres aux populations concernées. Dans la logique de l'E.I.E., c'est le projet qui donne son sens à l'écosystème et non les populations qui en font partie ou, si l'on veut, l'écosystème n'est plus considéré comme englobant les populations humaines et tout ce qui contribue à l'entretien de leur vie (Directives, p. 8) mais plutôt comme un milieu dont on n'éclaire que les composantes liées de façon plus ou moins mécanique au projet.

Il y a là un renversement des priorités qui, pour difficile à cerner qu'il soit, nous paraît contraire aux tendances actuelles de l'évaluation des incidences et contraire aux Directives. Or, comme on le verra par ailleurs, il ne s'agit là que d'un premier niveau de réduction qui va se poursuivre tout au long de l'E.I.E. ne laissant en fin de compte plus grand chose de tangible pour évaluer les incidences du projet sur les populations humaines.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 2

Examinateur: [redacted]Dcc inc.

Directives # 5.0(4); 6.4.2(i); 6.4.2(iii); 6.4.2(v), 6.4.2(vii)

E.I.E.: Chapitre 5

MILIEU HUMAIN

Nature de la lacune

Quantitativement le milieu humain est amputé de près de 20% de sa population puisque, contrairement aux Directives qui lui demandaient de décrire la répartition et les caractéristiques des groupes humains concernés par le projet, le promoteur ne fournit aucune ou très peu d'informations sur les Innu du Labrador, les Montagnais du Québec et les militaires de la base.

Qualitativement le milieu humain est amputé de sa dimension culturelle et sociale ce qui contrevient aux demandes de la Commission dont les préoccupations pour la culture et les valeurs fondamentales des populations touchées par le projet ont été exprimées dans plusieurs directives.

Cette double amputation qui prive le milieu humain de nombre de ses composantes pourtant affectées par le projet rend l'évaluation des impacts de celui-ci extrêmement difficile.

Justification

En plus de dire que le milieu humain doit être considéré comme inclu dans la dynamique de l'écosystème (voir Lacune no 1), la Commission fait état, dans ses Directives, de ses préoccupations pour cette partie de l'environnement. Elle demande notamment que l'E.I.E. indique la répartition et les caractéristiques des groupes humains touchés par le projet (Directives 6.4.2(i), p. 29) et il est évident qu'elle vise à obtenir des informations sur tous ces groupes. Le promoteur a choisi de considérer pour son enquête socio-économique un territoire "beaucoup plus vaste que les lieux mêmes de déplacement des exercices militaires" (E.I.E. 5.2.1, p. 5-4), décision qui, à nos yeux, est extrêmement pertinente. Il souligne la diversité ethnique et culturelle des populations de ce territoire et énumère les différents groupes

qui y vivent ainsi que leurs organismes administratifs. Or, parmi ces groupes directement visés par le projet, trois sont pratiquement absents de l'E.I.E., faussant ainsi, et de beaucoup, non seulement la description du milieu humain mais aussi celle du milieu naturel (puisque les valeurs de ces groupes n'y sont pas prises en considération) et, bien sûr, l'évaluation des impacts. Il s'agit des Montagnais du Québec, des Innu du Labrador (voir Lacune no 4) et des militaires de la base de Goose Bay (voir Lacune no 5). C'est donc entre 8000 et 10 000 personnes ou plus qui sont évacuées de l'E.I.E. amputant démographiquement le milieu de près de 20% de sa population.

S'il est sans doute pertinent de dire que "l'évaluation du cadre théorique d'une étude d'impact se fait par l'examen de l'interface entre les caractéristiques du projet et celles de la population concernée" (E.I.E. 5.2.3, p. 5-5), encore faut-il que l'on tienne compte de toutes les composantes de celle-ci. Or à cette amputation quantitative s'ajoute une amputation qualitative qui provient de la définition que le promoteur donne du milieu humain.

Nous examinerons tout d'abord ce que la Commission fournit comme indication à ce sujet afin de voir si le promoteur a respecté les Directives. Au chapitre des questions particulières, la Commission attire l'attention sur "les effets du projet sur la culture, l'économie et l'utilisation des terres des divers groupes habitant la zone du projet, et particulièrement les autochtones" (Directives 5.0(4)). Au chapitre de la description du milieu naturel et humain, la Commission demande que l'on traite du rapport entre les activités et pratiques économiques des Autochtones d'une part, la survie et la viabilité de leurs cultures de l'autre. Dans la section 6.4.2 qui concerne le milieu humain proprement dit, la Commission demande une description relativement complète du milieu: répartition et caractéristiques des groupes, fluctuations saisonnières, tendances démographiques, pratiques et activités culturelles et économiques, services et infrastructures, situation de l'emploi (6.4.2(i)). La Commission s'intéresse à l'ensemble du contexte économique, social et culturel (6.4.2(iii)), à l'utilisation passée, présente et future des ressources y compris les activités de chasse commerciale, sportive, de subsistance et le tourisme (6.4.2(v)), aux lieux et secteurs présentant un intérêt particulier de nature culturelle, spirituelle ou autre (6.4.2(vii)). Enfin, au chapitre des incidences, la Commission demandait que l'E.I.E. couvre les effets environnementaux, socio-économiques et culturels (6.5, voir aussi p. 11 dans la section des considérations méthodologiques).

Autrement dit les directives émises par la Commission indiquent son intérêt pour la dimension culturelle et pour les valeurs des différents groupes concernés. Elles rappellent à la fois la continuité et les variations du milieu humain tant dans le temps que dans l'espace. Elles font référence aux relations dynamiques qui animent les composantes de ce milieu que ce soit les rapports entre les pratiques économiques et le reste de la culture, entre le territoire et la culture, entre le territoire et l'économie ou entre les activités économiques et le changement culturel.

C'est en se fondant sur les différentes questions soulevées par les directives ainsi que sur d'autres qu'il aurait jugées importantes, et en prêtant une attention particulière à la dynamique de l'écosystème que le promoteur devait décrire l'environnement. Voici donc ce que contient l'E.I.E. à ce sujet.

Le chapitre 5 entièrement consacré à la description sur le milieu humain annonce dès le début la façon dont les auteurs en conçoivent la définition:

> Le présent chapitre décrit les groupes, les collectivités et les secteurs économiques qui pourraient être touchés par les exercices militaires au Labrador et au Québec (E.I.E. 5.0, p. 5-1).

Les auteurs indiquent ensuite qu'ils ont réparti les collectivités installées sur ce territoire entre sept zones regroupées ensuite en deux catégories. La constitution de ces catégories ne tient compte ni des caractéristiques propres aux collectivités ni du fait qu'elles vont être affectées de la même façon par le projet (North West River et Mud Lake qui subiront des impacts différents de ceux de Happy Valley - Goose Bay sont toujours traitées en même temps que cette dernière). Elles sont plutôt regroupées selon une division de l'espace qui découle directement du projet et des deux types de conséquences que le promoteur lui attribue. L'E.I.E. est donc organisée autour des deux catégories suivantes:

- celle des collectivités qui voisinent la base de Goose Bay (centre du Labrador)
- celle des collectivités qui seront soumises aux exercices aériens (régions périphériques) (E.I.E. 5.2.1, p. 5-4).

A chacune de ces catégories est attribué un impact économique spécifique: dans le premier cas l'impact s'exprime essentiellement en termes de revenus (expansion commerciale, emplois), pour le second l'impact touchera les activités d'exploitation du territoire (E.I.E. 5.2.1, p. 5-4).

Plusieurs remarques peuvent être faites ici. Nous en ferons trois.

- N'étant pas basée sur les caractéristiques des collectivités, cette catégorisation génère ses propres contradictions.

- L'impact économique qui est celui auquel le promoteur accorde le plus d'attention n'est pas évalué en tenant compte de la situation concrète des populations.

- La dimension culturelle est évacuée de l'E.I.E.

Nous reprendrons brièvement chacun de ces points.

1. La catégorisation des collectivités en deux grand groupes génère plusieurs contradictions. Ainsi Sheshatshit, North West River et Mud Lake dont les habitants tout comme ceux de la deuxième catégorie sont soumis aux vols à basse altitude lorsqu'ils se livrent à leurs activités de chasse,

pêche et piégeage devront recevoir un traitement spécifique à l'intérieur de la première catégorie. On y expliquera que si, pour les gens de Happy Valley - Goose Bay, l'exploitation des ressources est davantage un loisir qu'un moyen de subsistance, chez les autres communautés de la région centrale, une forte proportion de la viande consommée est constituée de viande de gibier (E.I.E. 5.4.13, p. 5-58). Pourtant quand viendra le temps de définir les perspectives d'avenir de l'ensemble de la région cette distinction disparaîtra et l'on apprendra que, dans la partie centrale, "l'exploitation des ressources fauniques restera principalement récréative" (E.I.E. 5.4.13, p. 5-58). Nous sommes persuadés que l'obligation où s'est placé le promoteur de polariser sa recherche l'amène à laisser échapper certaines de ses données et ainsi à fausser les résultats de son analyse même quand il aurait suffisamment d'informations pour la mener à bien.

L'illogisme de cette catégorisation se révèle également quand on voit apparaître les gens de Sheshatshit dans la région de l'Ouest du Labrador (E.I.E. 5.5.4, pp. 5-74 - 5-75) où ils poursuivent une partie de leurs activités de subsistance, laquelle se trouve ainsi biffée des activités des habitants de la région centrale (ce qui contribue sans doute à faire dire que pour les gens du centre du Labrador la chasse est essentiellement un loisir).

Le tiraillement créé par cette catégorisation apparaît également dans le traitement des informations sur les communautés québécoises. Dans une première section du chapitre 5, les auteurs présentent le cadre général de la région: démographie, état de santé, cadre économique, etc. Comme la municipalité de Happy Valley - Goose Bay qui, aux yeux du promoteur, constitue presque l'entièreté de la zone centrale, et comme une bonne partie des communautés des zones périphériques se trouvent au Labrador, le Québec est parfois passé sous silence dans cette section 5.3 ou traité d'une façon différente. Ainsi l'E.I.E. ne décrit pas dans son point 5.3.1 l'administration municipale en territoire québécois, ni dans son point 5.3.3 l'état de santé de la population du Québec touchée par le projet (ce qui contrevient à la directive 6.4.2). Les auteurs par ailleurs livrent dans les sections 5.5.5, 5.5.6 et 5.5.7, des informations sur la gestion des activités d'exploitation des ressources fauniques au Québec qui auraient dû figurer au point 5.3.6. Nous pensons qu'une attention plus grande aux caractéristiques des différents groupes qui vivent dans la région aurait permis d'éviter que l'on oublie ainsi de fournir certaines informations ou qu'on les évacue de l'analyse des incidences.

2. Dans sa description du milieu humain l'E.I.E. accorde une importance majeure à l'économie, ce qui, en soi, pourrait se justifier si, ce faisant, les auteurs tenaient compte des caractéristiques de chaque communauté plutôt que d'un modèle théorique. Signalons brièvement, par exemple, que l'E.I.E. présente comme l'un des impacts majeurs des Eléments 1 et 2 du projet un accroissement massif des possibilités d'emploi (E.I.E. 5.2.1, p. 5-4; 6.18, p. 6-139). Or, dans la description du cadre économique (E.I.E. 5.4.5, p. 5-42) l'emploi n'est pas présenté comme un problème majeur pour la population de Happy Valley - Goose Bay puisque le taux de chômage y est inférieur au taux provincial. D'autre part l'économie de la ville est décrite comme

"remorquée par le secteur des services" (plus de 90% des emplois) et on prévoit que le projet ne fera qu'aggraver cette situation. De plus cette économie, qui souffre déjà du fait qu'elle repose sur un seul agent économique: la base, verra s'accroître le monopole de cette dernière à l'égard de l'emploi. Lorsque le promoteur présente l'augmentation des besoins de main-d'oeuvre comme un impact positif, il réfère donc à un modèle théorique (en soi l'augmentation de l'emploi est considérée comme un avantage) mais il ne tient pas compte de la situation réelle de Happy Valley - Goose Bay, d'autant plus que les emplois que les habitants actuels de la ville pourront obtenir seront temporaires, non spécialisés et donc moins bien payés que ceux qu'obtiendront les ouvriers venus de l'extérieur. En n'ancrant pas son évaluation dans la réalité socio-économique et culturelle, le promoteur ne pose pas la bonne question (dans le cas présent: la ville de Happy Valley - Goose Bay a-t-elle besoin de nouveaux emplois, de quels types d'emplois et en quel nombre). La question étant biaisée (en théorie l'accroissement de l'emploi est-il un impact positif?) ou n'étant même pas posée, que peut-on attendre de la réponse? La réduction de la dimension économique du milieu humain découle du manque de préoccupation général pour la dimension socio-culturelle mais elle nous parait être une lacune suffisamment majeure pour que nous en traitions ailleurs (voir Lacune no 7).

3. La description du milieu humain telle qu'on la trouve au chapitre 6 de l'E.I.E. nous a paru constituée d'un cadre économique (emplois, revenus, infrastructures) et institutionnel (administration, services) extrêmement pauvre en informations socio-culturelles. Le lecteur saura tout sur le nombre d'écoles et rien sur le taux d'analphabétisme, tout sur les différents services qui s'occupent de la santé et de la protection et rien sur les taux et les types de toxicomanie et de criminalité. On lui redira ici et là qu'il y a des tensions familiales et raciales et que celles-ci vont augmenter mais la situation ne sera ni expliquée, ni discutée, ni placée dans son contexte de changement social et culturel (voir Lacune no 9).

Que savons-nous de l'organisation sociale et politique, de la dynamique familiale, des activités communautaires, des habitudes de consommation, de la culture matérielle, du type de patrimoine que ces populations veulent transmettre à leurs enfants; que savons-nous de la façon dont ils se définissent par rapport aux autres groupes de la région, de la province; que savons-nous de leurs croyances religieuses, de leurs options en terme de protection de l'environnement, de leur utilisation des grands réseaux de communication, de la valeur symbolique qu'ils accordent à l'espace, bref, que savons-nous des cultures de ces populations, de ce qui fait leur force et leur identité, de ce qui motive leurs activités. L'E.I.E. nous en fournit quelques indices lorsqu'elle énumère les préoccupations et attentes des populations. On apprend par exemple qu'à Happy Valley - Goose Bay les gens ne veulent pas d'augmentation du taux de criminalité, qu'ils veulent des équipements collectifs pour les jeunes, qu'ils souhaitent que leur localité ne grossisse pas trop et que leurs enfants puissent y vivre plus tard (E.I.E. 5.4.14, p. 5-59). Tel que mentionné plus haut, la section 6.18 rassemble aussi hâtivement quelques impressions sur les "problèmes sociaux" sans les qualifier. Ce n'est vraiment pas ce que l'on pourrait appeler une

description du milieu humain qui rende justice aux aspects sociaux et culturels. Ce n'est certainement pas par la description de ce cadre institutionnel et économique vide de substance que l'on peut appréhender le contexte social et culturel et percevoir les valeurs fondamentales des populations du Labrador et de la Côte-Nord québécoise. Comment avoir prise, dès lors sur les effets environnementaux, socio-économiques et culturels du projet (Directives 6.5)? Comment émettre des scénarios de changement social si l'on ne s'assure pas d'abord de produire une description consistante du milieu humain?

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 3

Examinateur: ssDcc inc.

Directives # 4.0; 4.0(4)

E.I.E.: 7.1.1; 7.1.2; 9.3.2; 4.9; 5.2.4; 5.5.5 à 5.5.7

METHODES

Nature de la lacune

Au chapitre des méthodes de cueillette et d'interprétation des données, plusieurs remarques seraient à faire. Elles porteraient notamment sur
- la conduite des enquêtes, la prise en compte des savoirs autochtones et l'intégration des données de terrain à l'E.I.E.;
- la prise en compte de la documentation existante tant sur les populations de la région que sur des expériences comparables vécues ailleurs;
- le traitement des effets cumulatifs;
- l'accessibilité du résumé, l'organisation de l'E.I.E.

Nous ne traiterons ici, et brièvement que du premier point. A notre avis la consultation de la population n'a pas été faite dans l'esprit des Directives et les résultats obtenus n'ont pas été intégrés à l'évaluation des impacts ce qui la rend à toutes fins pratiques inutile dans les circonstances (quoique non inintéressante).

Justification

Dans la description de son cadre théorique, le promoteur indique que, pour respecter les directives de la Commission, il a tenu compte des aspirations et préoccupations de la population (E.I.E. 5.2.3, p. 5-5). Les Directives insistent en effet sur la nécessité, afin de déterminer les valeurs fondamentales accordées aux différentes composantes de l'écosystème, de consulter les groupes intéressés (Directives 4.0(1), p. 9). Elles demandaient aussi que ces groupes soient consultés sur les changements prévus (Directives 4.0(4). Il s'agissait, comme le disent très bien les auteurs "de faire participer la population à l'enquête pour que les conclusions reflètent ses connaissances et ses préoccupations" (E.I.E. 5.24, p. 5-7).

On peut comprendre que le promoteur a procédé à deux types d'entretien et à un sondage

- Les premiers entretiens ont été faits avec les représentants de divers organismes et des membres de la plupart des collectivités. Ils ont porté sur leurs préoccupations et leurs attentes par rapport au projet. La liste des organismes consultés et la répartition des personnes rencontrées figure à l'Annexe 5A. Les préoccupations des collectivités des zones périphériques sont résumées dans l'Annexe 5B.

- Une seconde série d'entretiens a porté sur l'exploitation des ressources naturelles. L'Annexe 6C fournit le guide de conduite des entretiens.

- Enfin un sondage a été mené dans le centre du Labrador. Il portait sur les attentes, les valeurs et les opinions de la population à l'égard du projet.

Nous estimons, d'une part que cette consultation n'a pas été menée dans l'optique des attentes de la Commission, d'autre part que les résultats n'en ont pas été utilisés adéquatement par le promoteur.

1. Contenu des questions

Si l'on en croit l'Annexe 5B, les entretiens avec les personnes des collectivités éloignées ont essentiellement porté sur la perception que les gens ont eu du projet (voir les sous-titres de cette annexe). Bien que ceci ait sa raison d'être, les Directives demandaient que les populations concernées soient consultées à un tout autre niveau puisqu'il est question dans les "considérations méthodologiques" de déterminer les valeurs fondamentales accordées aux différentes composantes de l'écosystème (Directives p. 9). Nous nous attendions à trouver des questions sur les projets connexes par exemple, y compris ceux qui en sont encore à l'étape de la conception, et de façon générale sur les perceptions que les sociétés ont d'elles-même, de leur environnement, de leurs aspirations pour aujourd'hui et pour demain et ce, avec ou sans le projet. Tels qu'ils ont été menés les entretiens ne permettent pas de prendre de distance à l'égard du projet ni d'évaluer les solutions de rechange. Les mêmes remarques peuvent être faites à propos du sondage.

Quant aux entretiens sur l'exploitation de la faune, si l'on en croit le guide ils ne visaient pas recueillir en priorité les connaissances des populations sur la faune mais plutôt à cartographier leurs activités sur le territoire (E.I.E. 6.17.2.2, p. 6-115 et s.). Le promoteur n'a pas tenté de s'allier les connaissances des populations locales sur la région, ni de tirer parti des points de vue et schèmes de référence des Autochtones (Directives, p. 11). Une fois de plus, se retrouvent donc face à face un promoteur qui répète que les effets de son projet sur la faune, la flore, l'air et l'eau sont négligeables et une population locale qui va continuer à venir témoigner de ses inquiétudes basées sur les observations et sur une longue habitude de la région. Autrement dit le promoteur n'ayant nullement tenté de concilier les différents systèmes de référence, le débat restera polarisé et stérile.

2. L'utilisation des données

Même si elles n'ont pas été directement interrogées sur la question, les personnes qui ont participé aux entretiens ont signalé ici et là leurs façons de se voir collectivement et leurs projections pour l'avenir. Elles ont aussi redit et répété leurs inquiétudes et leurs espoirs. Tout cela est énuméré par le promoteur, à la fin de chacune des sections du chapitre 5, et l'on trouve bien souvent dans ces paragraphes les mêmes préoccupations que celles de la Commission avec parfois des propositions de solutions. De tout ce matériel recueilli d'un bout à l'autre de la région, nous avons la très forte impression que l'on ne retrouve pratiquement rien quand vient le temps d'évaluer les impacts. Nous avons signalé ici et là dans les textes des autres Lacunes comment le contenu de ces entretiens semble systématiquement mis de côté, mais nous n'avons pas eu le temps d'en faire la démonstration. Si notre hypothèse actuelle se confirmait, cela voudrait dire que cette vaste opération de "consultation" n'aura été qu'un leurre. Les populations sont bien là, en façade, avec leurs avis, leurs peurs, leurs espoirs par rapport au projet, mais tout cela ne sert à rien, car l'étude d'impact se préoccupe de problèmes situés à un autre niveau (voir les Lacunes 5, 6 et 7). En somme, non seulement les populations auraient été mal consultées mais en plus l'intégration des données qu'elles auraient fournies n'aurait pas été faite.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 4

Examinateur: ssDcc inc.

Directives # _____

E.I.E.: _____

LES AUTOCHTONES

Nature de la lacune

En ce qui a trait aux Autochtones le traitement est double puisque le promoteur n'a pas obtenu la collaboration de deux des nations concernées. Il faudrait examiner ce qui est dit malgré tout des absents (Innu et Montagnais), sur quelle documentation l'E.I.E. se base, et comment leur absence est expliquée. D'autre part, il y aurait lieu d'examiner le traitement accordé aux autres nations (Naskapis, Inuit du Labrador, Inuit du Québec) et de le comparer à celui que l'E.I.E. accorde aux absents. Enfin il faudrait regarder de près ce qui est dit des droits ancestraux et issus de traités, des conventions, de la place des Autochtones dans la Constitution.

Justification

Bien que nous n'ayons pas eu le temps d'examiner systématiquement la place que le promoteur accorde aux Autochtones dans son énoncé d'incidences nous tenons à signaler deux ou trois choses:

1. La façon dont le promoteur rend compte de l'absence des Innu et des Montagnais dans l'E.I.E.

A plusieurs reprises les auteurs mentionnent que deux associations ont refusé de participer à l'enquête: "Il est malheureux qu'ils aient préféré ne pas participer aux études sur le terrain dont découle le présent rapport"... A notre avis le promoteur aurait dû mentionner les raisons qui ont justifié cette décision. Ce refus correspond au choix du forum dans lequel ces associations désirent intervenir, soit celui du niveau décisionnel. Les Autochtones en cela suivent une logique très explicable dans les circonstances. D'aucuns estiment qu'il est plus avantageux de viser les processus décisionnels que de participer aux opérations consultatives.

En ne mentionnant pas les raisons de ce refus, le promoteur donne au lecteur l'impression que ces Autochtones agissent par entêtement et avec mauvaise volonté.

2. La pauvreté des bibliographies

Malgré ce refus, les auteurs auraient pu mettre à profit une documentation autrement plus abondante que celle qu'ils ont utilisée. Nous sommes sidérés devant la pauvreté de ces bibliographies et ce, non seulement pour les Autochtones qui n'ont pas participé à l'enquête mais pour tous, et, de façon générale pour l'ensemble du milieu humain. Le retrait des Innu et des Montagnais prive évidemment le promoteur des données précises sur leur utilisation du territoire, données que ces populations ont recueillies. Mais ceci n'a d'importance que si l'on n'est intéressé qu'à cartographier les déplacements des chasseurs et de leurs familles dans le seul but de déterminer quels sont les espaces qui peuvent être survolés sans problème. Si le promoteur avait cherché plutôt à s'informer sur les sociétés et les cultures autochtones, s'il avait voulu comprendre comment elles se répartissent sur le territoire, comment elles perçoivent celui-ci, quelle valeur elles attribuent à la faune et à la flore, il aurait eu de la documentation pour le faire. Nous ne sommes pas absolument sûrs de toute façon, n'ayant pas encore eu le temps de faire l'exercice d'une comparaison systématique qu'ils aient tiré parti de possibilités que leur ont offertes les Naskapis et les deux groupes inuit et donc qu'il soit davantage rendu justice aux pratiques et aux valeurs de ces populations. Nous ne sommes pas persuadés notamment (mais devrons l'examiner plus à fond si la Commission l'estime nécessaire) que les savoirs et les schèmes de référence des Autochtones aient été très sérieusement pris en considération (pas plus en fait que ceux de l'ensemble de la population (voir Lacune no 3).

3. Fausses conclusions

Il est vrai cependant que le promoteur n'a pas eu accès à certaines données. Ceci étant dit, nous estimons qu'il aurait dû mentionner les conséquences de cette absence au moment où elle nuisait à son analyse c'est-à-dire plus particulièrement dans ses conclusions et sur ses cartes. Nous ne sommes pas sûrs qu'il ait appliqué cette règle. Ainsi la carte intitulée "Lieux de chasse au caribou" (figure 5.2) devrait contenir une note indiquant qu'elle est incomplète puisqu'elle n'indique pas les lieux où les Autochtones, particulièrement les Montagnais de la Côte-Nord chassent cet animal. Il ne suffisait pas de mentionner le refus de participation des Innu et des Montagnais. A notre avis le promoteur aurait dû indiquer à certains endroits de son énoncé dans quelle mesure leur absence de l'enquête faussait les résultats de cette dernière.

D'une façon générale l'E.I.E. n'aura pas de sens tant que toutes les populations touchées par le projet n'auront pas été prises en considération. Comment évaluer l'impact des vols à basse altitude si l'on ne sait rien des deux groupes autochtones qui risquent d'être le plus touchés par le projet?

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 5

Examinateur: ssDcc inc.

Directives # 4.0(1); 4.0(6); 6.2.2; 6.2.3

E.I.E.: 2.5.2; 5.5; 6.17.4

PERSPECTIVES D'AVENIR

Nature de la lacune

Selon les directives préparées par la Commission d'évaluation environnementale, l'E.I.E. doit décrire tous les projets connexes et les traiter comme s'ils constituaient des parties du projet (Directives 6.2.3). Il est aussi indiqué, au chapitre des considérations méthodologiques, que l'E.I.E. doit tenir compte de la dynamique passée, présente et future de l'écosystème, notamment des cultures, des sociétés et des économies touchées dans le contexte de la durée prévue du projet (Directives 4.0(6)). Dans la perspective de ces directives, l'E.I.E. doit donc être élaboré de manière à situer le projet du ministère de la Défense nationale dans le contexte de l'ensemble des possibilités d'avenir du territoire étudié.

Or, l'E.I.E. ne réussit pas à rendre compte de la dynamique des projets d'avenir dont pourrait faire partie ou être exclu le projet du ministère de la Défense nationale. Cette lacune majeure découle, comme nous l'indiquons dans les paragraphes qui suivent, d'une double réduction de la notion de "projet". Elle est d'abord réduite au seul projet du ministère, ce qui a pour résultat de priver la Commission des informations nécessaires à l'évaluation des avantages et des inconvénients de sa réalisation ou de sa non-réalisation (lacune en rapport avec la directive 6.2.2). Elle est ensuite réduite aux projets de développement industriel ou commercial, ce qui a pour effet d'évacuer certaines valeurs culturelles fondamentales accordées aux éléments de l'écosystème par les différents groupes intéressés (lacune en rapport avec la directive 4.0(1)).

Justification

L'E.I.E. ne propose aucune discussion sur l'insertion du projet soumis par le ministère de la Défense nationale dans le cadre des perspectives d'avenir, des régions nordiques, des communautés locales de ces régions et des

personnes faisant partie de ces communautés? Parce qu'il ne considère et ne s'intéresse qu'à un seul projet, l'E.I.E. n'éclaire en rien ces débats très actuels qui sous-tendent des projets de société. Les quelques commentaires qui suggèrent une réflexion de cette nature ne servent tout au plus que de mises en garde naïves. "Commun à toutes les régions, cependant, est le sentiment que l'avenir repose en grande partie sur la préservation du milieu naturel et, par conséquent, que tout impact attribuable au projet, à une croissance démographique trop rapide ou à quelque autre cause, compromettra cet avenir." (E.I.E. 5.5.8, p. 5-93). Quoique le promoteur rapporte une telle préoccupation du milieu, ce commentaire reste sans suite car l'E.I.E. ne propose pas de discussion sur des projets connexes.

Les informations relatives aux projets connexes sont rassemblées dans les sections 2.5.1, 2.5.2 et 6.17.4 de l'E.I.E. Bien qu'on y trouve une liste de projets, l'E.I.E. n'apporte pas les renseignements suffisants pour que la Commission en comprenne les incidences cumulatives ou les interactions (Directives 6.2.3). En effet, l'E.I.E. ne présente aucune donnée sur les incidences de ces autres projets. La seule interaction de cette nature mentionnée dans l'E.I.E. porte en fait sur un projet qui n'est même pas inclus dans la liste de projets connexes. Il s'agit de l'impact du prolongement de l'autoroute Trans-Labrador sur l'exploitation des ressources renouvelables (E.I.E. 6.12.4, p. 6-85). En somme, l'E.I.E. n'offre pas la possibilité de comprendre la manière dont les incidences du projet du ministère de la Défense nationale s'inscrivent dans la dynamique régionale.

Si on y regarde de plus près, on constate que les projets connexes retenus sont tous de nature industrielle ou commerciale. Outre les autres activités militaires dans la région, il s'agit du tourisme, de la chasse commerciale au caribou, de l'industrie minière, de l'industrie forestière et de l'énergie hydro-électrique (E.I.E. 2.5.2, p. 2-8). Cependant, l'exploitation des ressources fauniques constitue un aspect important de la réalité économique et culturelle des communautés nordiques et rien n'indique que cette activité disparaîtra au cours des prochaines années. Bien que ce fait soit reconnu dans l'E.I.E., notamment par le biais des préoccupations formulées par la population, l'exploitation des ressources fauniques n'est pas retenue dans la liste des projets et des activités connexes. Cette omission a pour effet de restreindre les possibilités d'avenir à des projets dits de développement. Selon cette logique, on s'empêche de penser que les activités cynégétiques ont leur place dans l'économie régionale et peuvent, du moins partiellement, assurer convenablement une partie de l'avenir des communautés nordiques, ceci en même temps qu'on mentionne leur importance (E.I.E. 6.17.4.1, p. 6-137).

Ce paradoxe met en lumière une autre lacune majeure de l'E.I.E. en ce qui a trait à l'utilisation des informations recueillies lors des entrevues auprès organismes consultés et des personnes rencontrées au sein des collectivités locales (E.I.E., annexes du ch. 5). Bien que ces entrevues aient principalement abordé les incidences du projet, elles font aussi état de certaines perspectives d'avenir (diversification de l'économie, protection du milieu naturel, préservation d'une certaine qualité de vie, etc.). Dans le cadre de l'E.I.E., ces données ne servent cependant qu'à formuler des commentaires sur les opinions, inquiétudes et attentes de la population.

Les informations recueillies auprès de la population ne sont pas mises à profit pour comprendre les valeurs sur lesquelles les collectivités fondent leurs projets d'avenir. Elles ne servent pas non plus à développer une série d'analyses des incidences basées sur les diverses valeurs ainsi relevées. Cette approche est pourtant suggérée par la Commission dans le cas où différents groupes n'accordent pas tous la même valeur à certains éléments de l'écosystème (Directives 4.0(1)). Par exemple, les auteurs de l'E.I.E. observent des intérêts divergents parmi la population de la Côte-Nord. "Les commerçants sont en faveur du prolongement de l'autoroute [la route 138] et de la promotion du tourisme, alors que les pêcheurs apprécient, dans l'isolement actuel, le fait qu'il leur permet de préserver un mode de vie qui constitue un moyen d'existence." (E.I.E. 5.5.6, p. 5-88). D'une part, le prolongement de la route aurait pu être inclus parmi les projets connexes, d'autant plus que ses incidences se conjugeraient à celle du projet du ministère de la Défense nationale; d'autre part, les valeurs exprimées dans ces attentes et préoccupations pourraient aussi servir à constituer une grille d'analyse des incidences adaptée aux perspectives locales et régionales.

En somme, l'absence d'une discussion des projets de société, notamment au niveau régional, constitue une lacune majeure de l'E.I.E. En réduisant son champ d'investigation au seul projet du ministère de la Défense nationale et en limitant la notion de "projet" au domaine industriel et commercial, l'E.I.E. ne fournit pas les informations suffisantes pour évaluer la pertinence du projet, ses avantages et ses inconvénients, dans la perspective d'avenir de la région.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 6

Examinateur: ssDcc inc.

Directives # 5.0(1); 6.4.2; 6.5; 6.6

E.I.E.: 5.3.4; 5.4.5; 6.14; 6.17

ECONOMIE

Nature de la lacune

Non seulement les directives émises par la Commission d'évaluation environnementale illustrent-elles les relations étroites qui existent entre les considérations économiques, sociales et culturelles, mais elles indiquent aussi que l'analyse économique doit faire état des avantages et des coûts des différents éléments abordés. Au chapitre de la description du milieu humain, l'E.I.E. doit faire état "des coûts et des avantages sociaux et économiques associés aux activités militaires menées dans la péninsule Québec-Labrador depuis 1941" (Directives 6.4.2(iv)). Au moment d'évaluer les incidences, l'E.I.E. doit étudier "la possibilité de répercussions négatives sur des collectivités autres que Happy Valley-Goose Bay où le projet attirerait de la main-d'oeuvre et des capitaux qui, autrement, auraient pu être disponibles pour d'autres régions du Labrador" et "la possibilité que tout avantage économique du projet accentue ou prolonge le phénomène d'emballement-effondrement des économies locales et régionales" (Directives 6.5(i); 6.5(iv)). La Commission est aussi explicite sur le fait que la définition des mesures d'atténuation doit comprendre le coût de ces mesures ainsi que l'indication des instances responsables de leur application (Directives 6.6, p. 33).

Malgré toute l'importance que l'E.I.E. accorde à l'économie, comparativement à sa couverture des considérations sociales et culturelles (voir Lacune no 2), il demeure loin en deçà des directives de la Commission en ce qui concerne l'analyse demandée dans ce domaine. Cette lacune provient des réductions, opérées dans l'E.I.E., de l'économie à l'emploi, d'une part, et de l'analyse économique à l'évaluation des retombées des investissements, d'autre part. Elle entraîne l'E.I.E. à ramener l'économie aux investissements annoncés par le ministère de la Défense nationale.

Justification

Dans la perspective où l'économie est constituée de l'ensemble des activités de production, de distribution et de consommation des biens et des services, l'E.I.E. devrait d'abord proposer une description de ces activités aux niveaux local et régional pour ensuite tenter de comprendre comment le projet du ministère de la Défense nationale s'intègre dans ce contexte. Cependant, la nature des informations contenues dans les sections 5.3.4 (Le cadre économique général), 5.4.5 (Le cadre économique - pour le centre du Labrador) et 6.14 (L'impact économique) indique clairement comment les auteurs de l'E.I.E. conçoivent l'économie. Celle-ci est d'abord limitée à l'économie marchande, soit les activités au sujet desquelles des données chiffrées en dollars sont disponibles, puis confinée au domaine de l'emploi et ultimement aux revenus d'emploi (E.I.E. 5.4.5, p. 5-41).

Cette réduction a pour conséquence d'exclure du domaine de l'économie toutes les activités réalisées en dehors du cadre du marché. Par exemple, quand les auteurs de l'E.I.E. font état des projets ou activités connexes dans le domaine de l'exploitation des ressources fauniques, ils ne mentionnent que le tourisme et la chasse commerciale au caribou (E.I.E. 2.5.2, p. 2-8). L'importance de ces activités ne fait pas de doute, mais l'E.I.E. devrait aussi tenir compte de l'apport économique des activités de subsistance. A cause de cette lacune, l'évaluation des incidences de nature économique se trouve donc amputée d'une partie de l'objet dont elle devrait traiter.

Non seulement l'E.I.E. ne fournit pas les données nécessaires pour apprécier l'économie de la région à l'étude, mais l'analyse économique est elle-même confinée à l'évaluation des retombées des investissements alors qu'elle devrait également tenir compte des coûts impliqués par le projet dans différents secteurs d'activité. En excluant a priori la plupart des éléments qui pourraient s'aligner dans la colonne des coûts, l'E.I.E. renonce à tous ses moyens d'entamer une évaluation systématique des avantages et des coûts du projet du ministère de la Défense nationale. C'est donc totalement démuni qu'il entreprend l'évaluation des incidences économiques de ce projet qu'il résume à l'addition des effets directs (les investissements du ministère de la Défense nationale et de l'OTAN), des effets indirects (les dépenses inter-industrielles) et des effets induits (les dépenses des ménages).

Ainsi, bien que l'E.I.E. reconnaisse que les exercices aériens sont incompatibles avec les activités des pourvoiries et que l'industrie touristique pourrait subir une perte de revenus (E.I.E. 6.17.3.1, p. 6-133), nulle part ces pertes appréhendées ne sont déduites des retombées du projet. L'E.I.E. mentionne aussi que l'exploitation des ressources renouvelables assure une portion importante de l'alimentation et du chauffage dans plusieurs collectivités périphériques mais il ne juge pas utile d'inclure les incidences du projet sur cette activité dans ses considérations économiques (E.I.E. 6.17.2, p. 6-112). En réponse à une directive de la Commission demandant de porter une attention spéciale aux possibilités de développement économique qui s'offrent à la région (Directives 5.0(1)), non seulement de

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par la présence du projet à l'étude mais aussi de par la présence d'autres projets propres à la région ou à chacune des communautés, l'E.I.E. ne traite que des retombées en termes d'emploi et de création d'entreprises ou de problèmes suscités par une croissance démographique accélérée.

L'E.I.E. ne contient pas non plus l'analyse des coûts et des avantages sociaux et économiques associés à la présence militaire dans la péninsule Québec-Labrador depuis 1941, tel que requis par la Commission (Directives 6.4.2(iv)). L'E.I.E. ne répond pas non plus aux directives qui requièrent une évaluation des répercussions négatives du projet sur les collectivités périphériques (Directives 6.5(i)). Celles-ci sont énoncées à la section 6.18 mais, en aucun cas, ces considérations ne servent à pondérer les avantages économiques qu'annonce l'E.I.E. par ailleurs. Dans la même section, il aborde l'hypothèse selon laquelle l'avantage économique du projet pourrait accentuer ou prolonger le phénomène d'emballement-effondrement des économies locales et régionales (Directives 6.5(iv)), mais il ne développe pas l'analyse qui aurait été nécessaire pour y répondre adéquatement.

En somme, l'analyse économique de l'E.I.E. se résume à l'évaluation des retombées des investissements annoncés par le ministère de la Défense nationale. A cet égard, un commentaire s'impose: l'E.I.E. ne profite pas de l'expérience des activités militaires déjà en cours pour tester la validité des facteurs qu'il utilise pour quantifier les effets indirects et induits des investissements à venir. Ironiquement, l'E.I.E. est moins précis sur les incidences économiques du volume actuel d'activités (E.I.E. 6.14.2, p. 6-87) que sur les incidences prévues pour les prochaines années.

De plus, les auteurs de l'E.I.E. prêtent une telle foi dans les prévisions économiques qu'ils les utilisent pour décrire l'état actuel du milieu humain. "Le tableau 5.11 illustre une prévision du rythme d'évolution de certains indices économiques nationaux entre 1988 et 2005. De façon générale, on s'attend que la croissance diminue à 2,5 % par année jusqu'en 1997, puis tombe à 2,3 %..." (E.I.E. 5.3.4, p. 5-18). De manière générale, l'ensemble de l'E.I.E. constitue une manifestation assez patente du discours de l'"économisme" qui réduit l'économie au développement économique. A cause de cette réduction, l'E.I.E. se trouve tout entier englobé dans la logique du projet et en devient un élément de promotion.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 7

Examinateur: ssDcc inc.

Directives # 5.0(4); 5.0(5); 6.4.2; 6.5; 6.6

E.I.E.: 5.3.6; 5.4.13; 5.5

UTILISATION DES TERRES

Nature de la lacune

La connaissance des effets du projet sur l'utilisation des terres des divers groupes d'habitants de la zone du projet, et particulièrement des Autochtones, est l'un des principaux objectifs posés par la Commission d'évaluation environnementale dans ses directives pour la préparation de l'E.I.E. (Directives 5.0(4)). La description du milieu humain doit traiter de l'utilisation passée, présente et future des ressources, y compris les activités de chasse et de pêche commerciales et sportives, les activités de subsistance et le tourisme (Directives 6.4.2(v)). Par la suite, le promoteur doit étudier les interactions probables entre chacun des éléments de l'écosystème et chacune des composantes du projet (Directives 6.5). Il doit enfin prévoir des mesures d'atténuation appropriées qui peuvent notamment englober des mécanismes de dédommagement (Directives 6.6).

En fait d'utilisation des terres, l'E.I.E. ne parle que d'exploitation des ressources sauvages et ramène cet aspect à l'une de ses dimensions quantitatives, soit le nombre de personnes fréquentant un espace donné. Cette réduction est si drastique que l'E.I.E. se prive de la subatance qui lui serait nécessaire pour définir la nature des incidences du projet sur l'utilisation des terres et doit se rabattre sur des notions vides qui n'indiquent rien d'autre que l'existence d'un rapport entre l'activité décrite et le projet. Comme ces notions de "conflit", de "concurrence" et d'"opposition" ne permettent pas de cerner la nature des incidences, l'E.I.E. est condamné à improviser des mesures d'atténuation dont la principale conséquence pourrait être de limiter la mobilité des différents utilisateurs du territoire.

Justification

N'ayant pas saisi le milieu humain dans toute sa richesse sociale et culturelle et n'ayant pas considéré les possibilités autour desquelles

pourraient être formulées quelques perspectives d'avenir (voir Lacune no 5), les auteurs de l'E.I.E. réduisent encore une fois leur objet d'étude à quelques éléments définis en fonction du projet. Ainsi, l'utilisation passée, présente et future des ressources est abordée en fonction des activités actuelles avec lesquelles le projet du ministère de la Défense nationale pourrait interférer. Parmi toutes ces activités, l'E.I.E. accorde une place considérable à l'exploitation des ressources sauvages. La plupart des données sur ce sujet proviennent d'une enquête de terrain réalisée spécialement aux fins de l'E.I.E.

La description de l'exploitation des ressources sauvages (E.I.E. 5.3.6, 5.4.13 et 5.5) comporte deux aspects majeurs. D'une part, elle indique les modes de gestion de ces activités au Québec et au Labrador. D'autre part, elle fait état, pour chacune des espèces, des zones fréquentées par les résidants des diverses collectivités dans la pratique de ces activités. L'importance des différents secteurs du territoire étudié est déterminée selon le nombre de personnes susceptibles de les fréquenter et donne lieu à la classification suivante:

- secteurs occupés en permanence et campements permanents à vocation saisonnière (1re catégorie);
- secteurs très fréquentés, comportant des chalets de pourvoyeurs ou des agglomérations de camps de pêche ou de chasse (2e catégorie);
- secteurs moyennement fréquentés, y compris les secteurs clés des diverses collectivités locales, ceux qui sont situés près des établissements permanents et les points du territoire québécois desservis par avion de façon régulière (3e catégorie);
- secteurs peu fréquentés où l'on trouve seulement quelques cabanes dispersées (4e catégorie). (E.I.E. 6.17.2.2, p. 6-116).

La description de l'exploitation des ressources sauvages ainsi obtenue souffre d'une lacune majeure. Il y manque en effet les informations qui permettraient d'appréhender l'organisation des activités de chasse, de pêche et de tourisme dans leur dynamique propre. La compréhension de ce phénomène éviterait de continuer à penser l'occupation du territoire en fonction de points ou d'aires sur une carte alors que l'on devrait plutôt l'envisager en termes de circuits et de circulation. Cette incompréhension de l'organisation spatiale inhérente à la pratique des activités de chasse, de pêche et de tourisme imprègne la méthode utilisée lors de l'enquête visant à recueillir les données sur l'exploitation des ressources sauvages. Les résultats ainsi obtenus ne représentent donc pas adéquatement la réalité et ce, malgré le nombre d'informateurs interviewés, soit de cinq à quinze personnes par collectivité (à l'exception des communautés montagnaises et innu ayant refusé de participer à l'étude) (E.I.E. 6.17.2.2, p. 6-114).

D'ailleurs, de l'aveu même des auteurs de l'E.I.E., ce travail ne permet pas de tirer de conclusion: "Les endroits exploités ont donc été repérés et classés en fonction de leur importance, mais il a été impossible d'y prévoir les répercussions du projet en raison des nombreuses incertitudes sur le plan scientifique et de divers inconnus [sic]" (E.I.E., 6.17.2.2, p. 6-116). En fait, l'E.I.E. ne réussit pas à définir les rapports entre la réalisation du

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projet et l'évolution des activités d'exploitation mais, en même temps, reconnaît "que si des exercices se déroulent dans des secteurs de grande importance, ceux qui les fréquentent pourraient ne plus pouvoir s'y rendre" (E.I.E. 6.17.2.3, p. 6-117). Pour définir la nature des incidences du projet sur l'utilisation des terres, l'E.I.E se rabat sur trois notions vides de sens, "conflit, concurrence et opposition", qui n'indiquent rien d'autre que l'existence d'un rapport entre l'activité décrite et le projet.

Le choix théorique de définir l'importance de l'exploitation des ressources sauvages en fonction du nombre de personnes susceptibles d'y participer et d'inscrire cette importance par le biais de références spatiales a deux conséquences. La première est de faire porter le poids des incidences négatives de ce projet sur les utilisateurs qui favorisent la dispersion sur de plus vastes étendues de territoire. La seconde est de laisser croire que les secteurs fréquentés par un moins grand nombre de personnes ont moins d'importance et qu'ils sont, de ce fait, disponibles pour d'autres fins.

Partant de cette connaissance insuffisante du milieu, l'E.I.E. est condamné à improviser des mesures d'atténuation. La principale mesure proposée consiste à exclure certains secteurs des zones où sont réalisés les exercices. Cependant, la probabilité que ce programme d'exclusion géographique atténue les incidences négatives du projet est très incertaine car il est conçu à partir d'un modèle ne tenant compte ni de l'organisation des activités sur le territoire ni des valeurs de ses utilisateurs. Paradoxalement, sa principale conséquence pourrait être de limiter la mobilité des utilisateurs sur le territoire.

Cette conséquence probable du programme d'exclusion est implicitement acceptée dans le modèle dont s'inspirent tant l'évaluation des impacts que la conception du programme d'exclusion géographique. Les auteurs de l'E.I.E. mentionnent, sans en expliquer les raisons, que les utilisateurs qui fréquentent les zones où se déroulent des exercices pourraient ne plus pouvoir s'y rendre (E.I.E 6.17.2.3, p. 6-117), et ajoutent, du même souffle, que "durant une période où une activité est importante, l'endroit où elle se déroule a la même importance que l'activité elle-même. Lorsque toute activité cesse dans cet endroit, il perd son importance" (E.I.E. 6.17.2.3, p. 6-117). En perdant leur importance dans le cadre du modèle mis en place par l'E.I.E., il est à prévoir que ces secteurs deviendront de plus en plus disponibles et utilisés pour les exercices, d'une part, et qu'il en résultera une concentration des activités d'exploitation des ressources sauvages dans les secteurs non perturbés par les exercices, d'autre part.

En fait, ce programme d'exclusion géographique ne constitue pas tant une mesure d'atténuation qu'une façon de libérer des espaces pour les exercices aériens. Ceci est d'ailleurs clairement exprimé dans l'E.I.E. où il est indiqué que l'analyse des impacts fournit les renseignements nécessaires à la mise au point de "mesures d'atténuation adaptées aux besoins du projet" (E.I.E. 7.0, p. 7-1). Les besoins du projet c'est, d'abord et avant tout, de l'espace et il est évident, lorsqu'on consulte les tableaux 7.1 et 7.3 où l'on apprend que la stratégie d'exclusion géographique prévoit la

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reclassification de certains types d'exploitation dans des classes inférieures pour la saison de vol de 1990 et pour les saisons ultérieures (E.I.E. 7.2.7, p. 7-13 et 7-23), que l'application de cette mesure aura pour effet, non pas de restreindre l'espace disponible pour les exercices, mais au contraire d'en augmenter la superficie.

En somme, la logique de la démarche suivie dans l'E.I.E. en ce qui concerne les directives 5.0(4) et 6.4.2(v) va comme suit: l'impact très large, tel que conçu par la Commission d'évaluation environnementale, sur l'économie, l'utilisation des terres et la culture est devenu pour le promoteur un impact sur l'exploitation des ressources sauvages. Celui-ci est abordé par le biais du nombre de personnes fréquentant un espace donné. Après avoir procédé à une telle réduction, l'E.I.E. finit par conclure qu'on ne peut rien prévoir.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B#

Lacune majeure no 8

Examinateur: ssDcc inc.

Directives # 4.0; 5.0(4) et 5.0(6); 6.3; 6.5(v)

E.I.E.: Chapitres 3 et 6

SOUS-CULTURE MILITAIRE

Nature de la lacune

La directive 6.5 spécifie que "le promoteur doit étudier chaque composante du projet définie à l'article 6.3 par rapport à chacun des éléments de l'écosystème qui sont indiqués à l'article 6.4, en vue de déterminer des interactions probables" (Directives 6.5, p. 31) En ce qui concerne le milieu humain, l'analyse de l'interaction entre le projet et le milieu récepteur, nécessite donc que soient colligées des données pertinentes et suffisantes aux termes des directives 6.3 et 6.4 pour procéder à l'évaluation des effets socio-culturels et notamment à l'évaluation de "l'incidence à long terme de l'intensification de l'activité militaire à Goose Bay sur l'attitude et le comportement socio-culturel de la population dans la zone du projet" (Directive 6.5(v)).

Les données présentées dans l'E.I.E. au sujet de ce qui pourrait être appelé "la composante humaine du projet à l'étude" sont insuffisantes pour comprendre la dynamique particulière du groupe que constituent les militaires. La description du projet est, en effet, réduite à la liste de ses caractéristiques techniques et les données sur le milieu humain participant au projet se limitent à quelques informations démographiques et organisationnelles.

Cette réduction, couplée au fait que la compréhension du milieu humain est amputée d'une bonne partie de sa substance (voir Lacune no 2), a pour conséquence directe que l'E.I.E. n'est pas en mesure de procéder à l'analyse de l'interaction des groupes en présence. Il ne peut donc prévoir la nature et l'ampleur des incidences sociales ou culturelles découlant de cette interaction.

Justification

Au départ, la directive 6.3 dans sa formulation même, demande au promoteur une description d'éléments essentiellement techniques relatifs à l'organisation, aux activités, aux polygones de tir, à la protection des populations humaines et animales, à la sécurité publique, aux émissions d'aéronefs, à la construction et à la rénovation, à l'exploitation de la base et à sa fermeture, tant pour l'Elément 1 que pour l'Elément 2. Toutefois, les conditions minimales que doit remplir l'E.I.E. telles que spécifiées à la directive 4.0 et principalement aux directives 4.0(1) et 4.0(6) ainsi que les questions particulières identifiées par la Commission comme méritant une attention particulière dont celles formulées en 5.0(4) et 5.0(6), appellent un autre type d'information que celle présentée aux chapitres 3 et 6.

Les données sur la population militaire sont très rares. Elles apparaissent à titre de réponses ponctuelles à des directives spécifiques (Directives 6.3) et sont donc dispersées au travers d'une foule d'autres informations techniques. L'E.I.E. mentionne ainsi quelques éléments de l'organisation des activités des militaires sans pour autant traiter de la sous-culture militaire. Il est par exemple mentionné que: ce sont les commandants des forces alliées qui sont chargés de la discipline de leurs forces respectives (3.1.1.3, p. 3-4); que des plaintes sont reçues du public, qu'elles concernent des incidents particuliers et principalement des survols d'aéronefs (3.1.4.2, p. 3-15); que le seul moyen de contrôle des survols dont disposent les autorités réside dans les plaintes du public concernant ces survols (3.1.4.5, p. 3-17); que la conduite très sérieuse de la majorité des pilotes et le faible nombre d'infractions aux consignes de vols ne justifient pas un contrôle en temps réel des voies aériennes ni un régime coercitif (3.1.4.5, p. 3-17); que les militaires et leur famille fréquenteront l'hôpital provincial de Lac Melville pour toutes les maladies exigeant une hospitalisation et que les enfants des militaires canadiens et alliés fréquenteront les écoles publiques de la base et de la municipalité de Happy Valley-Goose Bay (3.1.8.3, p. 3-25), et ainsi de suite. Quelques autres informations ponctuelles apparaissant ici et là.

Au plus fort des activités pour les Eléments 1 et 2, le nombre total du personnel allié et des membres du personnel civil et militaire se chiffrera à un total de quelque 7 143 personnes, soit l'équivalent de la population actuelle de Happy Valley-Goose Bay. Plus de la moitié des effectifs de la base seront des stagiaires de passage pour des séjours de deux à trois semaines. Même si de toute évidence, la présence de ces militaires provenant de divers pays membres de l'OTAN aura des conséquences directes de nature sociale et culturelle, l'E.I.E. ne renseigne pas sur la sous-culture militaire. On ne sait rien du style de vie des militaires, de leurs intérêts et activités sociales et récréatives, de leurs intérêts pour le tourisme et les activités de chasse et de pêche, des problèmes existants et prévisibles d'écart de conduite tant pour les activités de vol que dans la vie sociale.

Le fait multiculturel et ce qu'il présuppose d'ajustements pour l'ensemble des activités sociales, scolaires et récréatives n'est pas abordé. Au plus, chacune des informations ponctuelles présentées soulève une foule de questions sur les dynamiques sociales et culturelles qu'elle présuppose sans pour autant en discuter directement.

De plus, l'E.I.E. ne présente aucune information sur la gestion de cette population. On apprend que les stagiaires seront logés sur la base, alors que le personnel militaire permanent pourra résider à la ville, mais on ne discute pas plus avant de la gestion de ces populations. On s'étonne de ne pas trouver de telles informations dans l'E.I.E.: elles auraient dues être discutées à la lumière de l'histoire de la présence militaire à Goose Bay depuis 1941 (Directives 4.0(6)) et des données comparatives provenant d'études d'incidences sociales et culturelles dues aux activités militaires en d'autres régions (Directives 4.0, p.11). Cette analyse est également absente de l'étude.

Cette lacune dans la présentation de la population que le projet amènera à vivre dans la région limite sévèrement la discussion relative à l'impact sur le milieu humain. On constate d'ailleurs, au chapitre 6, que cet impact n'est présenté que dans sa dimension socio-économique: ainsi, l'impact de la présence militaire est analysée essentiellement en terme de démographie relié à la création d'emploi (et uniquement pour le Centre du Labrador), de pression sur les infrastructures pour le logement et les services puis en terme de pression sur la faune pour les activités de chasse et pêche. On ne trouve aucun traitement qualitatif de l'impact socio-culturel de la présence des militaires sur le tissu social de la population de la zone touchée.

La section 6.18 de l'E.I.E. intitulée "Synthèse explicative" qui se veut un résumé des principaux impacts sociaux rattachés aux thématiques des sections précédentes ainsi qu'un aperçu de la répartition et de l'aspect qualitatif de ces impacts entre les différentes localités, aborde ces sujets essentiellement en rapport avec les répercussions éventuelles du projet sur les activités d'exploitation des ressources fauniques. Encore ici, le traitement qualitatif de l'impact socio-culturel n'apparaît que par défaut, et que par rapport à un sujet spécifique.

C'est à la faveur des résultats d'enquête de terrain qui témoignent des inquiétudes de la population que sont soulevées diverses questions relatives à l'impact de la présence des militaires et au changement socio-culturel: elles relèvent de préoccupations sur la qualité de la vie et du tissu social, sur les choix de mode de vie, sur les valeurs sociales et culturelles. Elles sont tout vraisemblablement basées sur leurs expériences actuelles et leurs connaissances de l'histoire. Le promoteur fait état de ces préoccupations qu'il considère sérieuses et les met en rapport avec ce qu'il nomme "les enseignements de situations passées analogues", dont ceux relatifs aux "villes champignons". Il ne tire pas profit des enseignements de l'histoire passée et de la situation actuelle de la présence militaire dans la région.

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En l'absence de ces informations sur les valeurs et mode de vie respectifs des groupes en présence, ne peuvent être dégagées les incidences tant positives que négatives de leur interface. Une telle démarche de recherche aurait permis au promoteur d'apprécier à leur juste valeur et de répondre adéquatement aux préoccupations de la population, de proposer des choix de solutions acceptables et d'imaginer des mesures d'atténuation réalistes et pertinentes.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 9

Examinateur: ssDcc inc.

Directives # 5.0(4); 5.0(6); 6.4.2; 6.5(v); 6.6

E.I.E.: Sections 6.18, 6.19, 6.21 et chapitre 7

CHANGEMENT SOCIAL

Nature de la lacune

Les directives émises par la Commission d'évaluation environnementale relativement à la description du milieu humain et à l'évaluation des incidences illustrent les rapports étroits qui existent entre les considérations économiques, sociales et culturelles. Ainsi, l'E.I.E. doit décrire "les pratiques culturelles et économiques", "le contexte économique, culturel et social" et "les coûts et les avantages sociaux et économiques associés aux activités militaires menées dans la péninsule Québec-Labrador depuis 1941" (Directives 6.4.2(i), (iii) et (iv)). Au chapitre des incidences, "les effets environnementaux, socio-économiques et culturels prévus du projet, y compris ceux des solutions de rechange indiquées à l'alinéa 6.2.5, doivent être décrits, quantitativement et qualitativement" (Directives 6.5).

Alors que la Commission d'évaluation environnementale définit le milieu humain dans une perspective très englobante, l'E.I.E. réduit les considérations sociales et économiques à leur portion congrue: les impacts socio-économiques. Dans ce discours du "socio-économique", de la même manière que l'économie est limitée à l'emploi, le changement social devient synonyme de problèmes sociaux. En adoptant ce niveau de discours où s'accumule, cas par cas, une kyrielle de problèmes spécifiques, le promoteur s'écarte des avenues plus larges qui lui auraient permis de concevoir des mesures d'atténuation mieux adaptées à la dynamique du milieu humain de Happy Valley-Goose Bay et de la région.

Justification

Les sections 6.18, 6.19 et 6.21 de l'E.I.E. regroupent la plupart des commentaires qui auraient pu faire l'objet d'une réflexion sur le changement social. Le mode de présentation de ces phénomènes ne rend cependant pas

justice à leur complexité: évacués des autres niveaux d'analyse, ces phénomènes sont regroupés dans quelques sections où ils sont exposés dans un véritable musée de la misère humaine. Pour tout traitement, chacun de ces problèmes est inscrit dans la liste du catalogue que constitue cette partie de l'E.I.E.

Nous renonçons à faire une liste de tous les sujets nommés dans la dizaine de pages que couvrent les sections 6.18, 6.19 et 6.21 de l'E.I.E., mais en voici un échantillon:
- alcoolisme
- toxicomanie
- violence familiale
- maladies transmises sexuellement
- grossesses illégitimes
- délinquance des stagiaires à la fin de leur bref séjour
- invasion de la vie privée
- exode des jeunes cerveaux
- absence de règles et de pratiques d'embauche sensibles aux besoins des jeunes des collectivités éloignées
- marginalisation accélérée et accroissement de la tension raciale
- intoxication de la chaîne alimentaire
- dégradation de l'identité culturelle.

En abordant chacun de ces problèmes à la pièce, l'E.I.E. les traite mécaniquement à titre de problèmes sociaux à prévenir ou corriger. Parce que ces commentaires ne reposent ni sur un examen pertinent de la composante humaine du projet (voir Lacune no 8) et du milieu humain récepteur, ni sur une analyse adéquate de leur interface, les auteurs de l'E.I.E. sont pris au piège des impressions et des discours sans fondement. Par exemple, il relève d'un discours simpliste de soutenir que les grossesses chez les adolescentes de Sheshashit sont une manifestation de l'absence de planification familiale (E.I.E. 6.21.2, p. 6-166).

En adoptant cette perspective, le promoteur se prive des possibilités que lui offre une approche plus dynamique du milieu humain pour concevoir des mesures d'atténuation mieux adaptées aux collectivités affectées par son projet.

Toute société, tout groupement humain, a son lot de problèmes sociaux, mais elle a aussi sa part de dynamisme créatif. L'objet de l'E.I.E., en matière sociale, n'est pas d'étudier le milieu récepteur uniquement en fonction des éléments pertinents au projet, mais bien d'étudier le milieu en soi afin d'en saisir la dynamique propre. Une telle analyse des dynamiques sociales est en soi source de ses propres propositions de "solutions". Une fois les tendances du changement social cernées, les populations touchées, le promoteur et les institutions sociales concernées pourront respectivement agir en conséquence. A défaut de quoi, le promoteur s'enferme lui-même dans un discours mécaniste et utopiste où chaque "problème" doit trouver sa "solution", en espérant qu'elle existe.

COMMISSION D'EVALUATION ENVIRONNEMENTALE AU SUJET DES ACTIVITES DE VOL MILITAIRE AU LABRADOR ET AU QUEBEC

FORMULAIRE B*

Lacune majeure no 10

Examinateur: ssDcc inc.

Directives # 5.0(2a); 5.0(7); 6.4.2(2)

E.I.E.: 5.33; 6.20.2; 6.21; 7.7.3.2; 9.4.3

BRUIT

Nature de la lacune

L'incidence du bruit sur la santé des populations est évaluée en fonction de leur santé physique uniquement et plus particulièrement de l'altération de la faculté auditive de certaines personnes. Bien que le promoteur fasse souvent référence aux effets psychologiques du bruit et bien que l'on puisse concevoir des conséquences sur la santé collective des populations, l'E.I.E. ne soupèse, et ne vise à atténuer, que les impacts auditifs. L'être humain est donc pris individuellement et réduit à ses fonctions physiologiques contrairement aux demandes de la Commission pour qui le terme "santé" devait être pris dans son sens le plus large.

Justification

Lorsque la Commission décrit ses attentes en termes de santé, il s'agit toujours de santé "physique et mentale". Elle demande que l'on accorde à ce terme le sens le plus large afin "qu'il englobe toute forme de stress, de traumatisme, d'altération et de pression physiologiques et psychologiques" (Directives 6.4.2(2), p. 29-30). Et lorsqu'elle exprime ses préoccupations en ce qui a trait aux effets du bruit c'est encore à "la santé physiologique et psychologique" qu'elle pense et ce, tant pour les individus que pour les groupes (Directives 5.0(2a), p. 12).

Les effets du bruit sur la santé figurent au nombre des appréhensions de la population concernée (E.I.E. 5.3.3, p. 5-17; voir aussi 5.4.14, p. 5-59; 5.5.2, p. 5-66; 5.5.3, p. 5-72...) et ils ont suscité beaucoup de discussion sur la place publique. L'E.I.E. y consacre donc une certaine attention. Dans une première section de chapitre, les auteurs font état des études qui ont porté sur cette question (E.I.E. 6.20.2.1, p. 147 à 156), puis ils passent à l'analyse des impacts du bruit dans la région de Goose Bay, dans les zones d'exercices et les couloirs et finalement à proximité des polygones (6.20.2.2; 6.20.2.3 et 6.20.2.4). Dès le départ les auteurs affirment:

> Il n'est pas douteux que le bruit puisse constituer une gêne ou même une nuisance, qu'il puisse créer du stress et avoir des conséquences sur la santé, dans son sens le plus large. (E.I.E. 6.20.2, p. 6-147)

Passant en revue les différents impacts du bruit -sur les facultés auditives, sur d'autres domaines de la santé, sur le sommeil, sur la communication orale- ils concluent que, chez les humains, "la gêne acoustique est certainement la conséquence la plus grave d'une exposition au bruit des aéronefs" (E.I.E. 6.20.2.1, p. 6-152). Brièvement, disons que la "gêne" est cette impression générale ressentie par le sujet quand survient une perturbation, que celle-ci soit provoquée par des facteurs physiques ou émotionnels.

> Des recherches effectuées en psychoacoustique indiquent que les attitudes, les croyances et les valeurs d'un sujet peuvent influer considérablement sur son degré de gêne et sur la nature de sa réaction. (E.I.E. 6.20.2.1, p. 6-153)

Il ne fait donc aucun doute que, dans l'esprit des auteurs, deux types de paramètres doivent être connus si l'on veut savoir quel est l'effet du bruit sur la santé d'une population: des paramètres relativement mesurables (intensité, fréquence, etc.) et des paramètres plus difficiles à évaluer comme l'idée que l'on se fait de la nécessité ou de la non-nécessité de la source du bruit, l'opinion en ce qui concerne l'effet du bruit sur la santé ou sur l'environnement, l'impression que le responsable du bruit fait tout pour l'atténuer ou au contraire ne se préoccupe pas de ceux qu'il dérange, etc. (E.I.E. 6.20.2.1, p. 6-153).

De la même façon, en ce qui concerne les bang soniques,

> /.../ il faut reconnaître que la réaction des gens est déterminée non seulement par le nombre et l'intensité des détonations, mais aussi par leur attitude à l'égard de l'aviation en général et de la nécessité des vols soniques. (E.I.E. 6.20.2.1, p. 6-155)

On pourrait donc croire que lorsqu'ils passeront à l'examen des effets du bruit sur les populations du Labrador et du Québec les auteurs tiendront compte de ces deux types de variables et ce, d'autant plus que les populations touchées, les Autochtones notamment, ont manifesté à de multiples reprises la crainte que leur inspire le bruit des avions, la panique même qu'il suscite chez les enfants, les réactions nerveuses qu'il provoque ainsi que cette impression d'être espionnés chez eux, de ne plus pouvoir se livrer en toute quiétude à leurs activités, de voir leurs territoires violés par des étrangers.

En fait, l'E.I.E. se contente de présenter les résultats des mesures du bruit prises à Happy Valley-Goose Bay. Les auteurs se livrent d'ailleurs à une comptabilité mesquine dans laquelle ils supputent les possibilités qu'auront les habitants de Spruce Park (et, lorsque les Eléments 1 et 2 seront en place, d'autres quartiers de Happy Valley-Goose Bay) d'ouvrir ou de fermer leurs fenêtres, de ne sortir de chez eux que 2 heures et demie ou moins de 15

minutes par jour selon la situation de leurs maisons par rapport à la base et selon leur volonté de risquer ou non une altération de leurs facultés auditives (E.I.E. 6.20.2.2, p. 6-156). Cette comptabilité ne tient pas compte de l'âge de la personne en question (contrairement aux exigences de la Directive 6.4.2(2)) ni de son exposition à d'autres bruits (de par son travail, par exemple), ni de ses habitudes de vie (jeu des enfants à l'extérieur, distance entre deux interlocuteurs, fréquence de l'utilisation du téléphone). En ce qui concerne les écoles, le promoteur, études à l'appui, tente d'évaluer le nombre de fois où un professeur s'interrompt pour laisser passer le bruit des avions et les circonstances au cours desquelles, le professeur continuant à parler, les enfants perdent une partie de ce qu'il dit, pour conclure que les vols ne seront pas la cause d'un grand gaspillage en ce qui concerne l'apprentissage des matières scolaires. C'est compter sans s'informer sur le niveau de déconcentration des enfants au moment des survols, sur leur fatigue, sur leur degré préalable de stress.

En fait, et malgré tout ce qu'il en aura dit dans sa section de présentation (E.I.E. 6.20.2.1), le promoteur ne tient pas compte des attitudes, croyances et valeurs des gens envers le bruit ou l'aviation. Il prétend les avoir estimées mais n'a en fait évalué que le degré de nuisance (par le biais d'un questionnaire sur le dérangement causé par les vols en diverses circonstances).

En ce qui concerne les populations qui fréquentent les zones d'exercices et les couloirs ainsi que les régions où sont installés des polygones, aucune tentative n'a été faite pour mesurer leur degré de gêne (E.I.E. 6.20.2.3, p. 6-160). On apprendra cependant que ce degré de gêne sera relativement faible, surtout si les gens se couchent après minuit et pourvu qu'ils n'entretiennent pas de trop longues conversations.

> La plupart des réveils dus au bruit auront lieu après minuit. Même dans le pire des cas, on pourra donc dormir sans être dérangé pendant la plus grande partie de la nuit (...)
> La durée de ces phénomènes sonores ponctuels sera très brève: par conséquent les chances qu'ils se produisent pendant que des gens sont en pleine conversation seront très faibles. (E.I.E. 6.20.2.3, p. 6-159)

De toute façon, dira le promoteur,

> Il est extrêmement improbable que quiconque puisse souhaiter habiter où que ce soit dans une zone d'exercices à basse altitude, pendant bien longtemps. C'est pourquoi il n'existe pratiquement aucun risque d'affaiblissement des facultés auditives. (E.I.E. 6.20.2.3, p. 6-159)

C'est évidemment ne pas tenir compte de ceux qui considèrent cet espace non pas comme une zone d'exercices mais comme leur territoire, celui où chassaient leurs ancêtres et où ils continuent à espérer que leurs enfants chasseront aussi. On mesure ici l'ampleur de la non-compréhension de ce que représente symboliquement le bruit pour les populations. En évacuant la dimension, impondérable peut-être mais extrêmement présente, du stress lié aux croyances et aux valeurs, le promoteur met de côté les effets du bruit

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sur la santé collective et ainsi ne se trouve plus obligé de penser à des mesures d'atténuation.

Pour les quartiers de Happy Valley-Goose Bay où vraiment le nombre de décibels, déjà aux limites du tolérable, sera encore augmenté, il propose des mesures correctives (E.I.E. 7.7.3.2, p. 7-46) et un programme visant à les évaluer.

En ce qui a trait aux autres régions, la seule mesure d'atténuation envisagée est l'exclusion géographique. Or celle-ci éliminerait sans doute le bruit mais sûrement pas les effets du bruit appréhendé. Certaines personnes d'après les auteurs, risquent de prendre la décision de ne plus fréquenter leurs territoires, de ne plus s'y livrer à leurs activités de récolte par crainte du bruit, et donc à long terme de se priver de ressources alimentaires et de perdre contact avec une partie de leur culture.

Il est étrange qu'ayant suscité un stress qu'il définit lui-même comme découlant de la perception d'une atteinte au mode de vie et d'une violation de la propriété (E.I.E. 6.21.1, p. 6-165), le promoteur ne cherche pas à l'atténuer. Cette incapacité à concevoir des mesures d'atténuation découle du manque d'information sur les cultures des groupes concernés (voir Lacune no 2) et notamment du fait que le promoteur n'a pas tenté de cerner lui-même les facteurs psychologiques, culturels et politiques qui motivent ce stress.

Il est étrange aussi que définissant lui-même à la fois les effets du bruit et l'état de santé des populations en termes de stress, le promoteur n'envisage aucunement qu'il puisse contribuer, de par ses activités, à la dégradation de cet état de santé (sinon par le biais des grossesses des adolescentes et de la circulation des MTS, voir Lacune no 8). Selon les auteurs de l'E.I.E., en effet les populations du Labrador ont indéniablement des problèmes de santé physique et mentale, leurs maladies reflètent des conditions de vie difficiles qui "résistent mal à tout nouveau changement de leur cadre social, économique et environnemental" (E.I.E. 5.3.3, p. 5-16, 17). Elles sont, autrement dit, aux prises avec un stress permanent alimenté par des facteurs sociaux, économiques et même politiques (E.I.E. 5.3.3, p. 5-16).

A notre avis, les vols à basse altitude ajoutent un nouveau stress sur une population autochtone qui depuis plusieurs années mène une lutte parfois très dure pour retrouver son autonomie et son espace national. Les auteurs, qui n'ont pas évalué cet effet cumulatif (Directives 5.0(7)) ne se risquent donc pas à établir un lien entre la détérioration de la santé des Autochtones, des Innu surtout, et les vols à basse altitude, ce qui les libère sans doute de l'obligation de penser immédiatement à des mesures d'atténuation réalistes.

Le doute est là pourtant puisqu'au chapitre de la surveillance ils annoncent que l'on va vérifier l'efficacité des mesures d'exclusion géographique à partir de 1990 et que s'il est démontré que les activités de chasse et de pêche sont réellement perturbées par les vols "on étudiera alors les conséquences psychologiques et physiologiques de ceux-ci, ainsi que les

moyens possibles de remédier à la situation" (E.I.E. 9.4.3, p. 9-7). Tout ceci suppose évidemment que les populations collaborent au programme d'exclusion, ce qui, on le sait est pour l'instant contraire à l'habitude du plus grand nombre et, dans le cas des Innu et des Montagnais, contraire à ces décisions politiques qui font sans doute partie de leur lutte pour la reconquête de leur santé collective. Dans le cas des Autochtones au moins, on ne peut actuellement penser le problème du bruit autrement qu'en terme politique. Le poser différemment c'est être à côté de la question et faire preuve une fois de plus de non-connaissance du milieu humain ou de non-prise en considération des valeurs propres à chaque groupe.

CARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

TEC-8

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: Juniper, I.

Date: November 20, 1989.

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1	4.0 (p. 11)	6-24 (6.4.2.3)	x		Exagerated use of available data in estimating potential noise impact on George River herd.
2	4.0 (p. 11)	6-23 (6.4.2) 4-25 (4.10)	x		Lack of native input.
3	6.4.1.4 (iv) (p.30)	4-2 4-27	x		Outdated data on population estimate for the George River herd.
4	4.0 (p. 11)	6-23 (6.4.2.1)	x		Attempts to predict the numbers of caribou occupying northern section of training area not feasible.
5	-	4-27		x	1988 photocensus of G.R. caribou herd conducted by MLCP (Quebec) with Nfld. participation.
6	6.4.1.4 (iv)	Appendix III p.III-6		x	wrong references: 3.2.4.1 3.2.4.2

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 1

Reviewer: Juniper, I.

Guideline Section # 4.0 (p. 11)

EIS Page(s) 6-24 to 6-36

Nature of Deficiency

Assumptions on caribou behaviour in contradiction to what is generally known and accepted were used to estimate exposure of caribou to low-level flights. These data were then used in extrapolation to estimates of exposure at various distances from the aircraft.

Rationale

The indication that one could estimate the percentage of the herd overflown together with the numbers of flights per day down to a tenth of a percent for a given season is grossly misleading for the lay person and unacceptable to caribou specialists.

* To be completed for each major defiency listed in Form A

Signature

November 20, 1989.

Date

Goose Bay EIS Review
Reviewer: Juniper, I.

Major Deficiency # 1

6.4.2.3
6-24 to 6-26

Methods used to estimate exposure of caribou from the George River herd to aircraft noise and to generate tables 6.10 to 6.13 are questionable. The demonstrated high variability between years in the seasonal distribution of the herd as well as the dynamic nature of their density should discourage this sort of exercise. Technical Report 4A (sub-section 2.5.2) shows densities of females and yearlings varying from 9.11/km^2 in 1986 to 33/km^2 in 1984. And because of that part of the LLT shown to be occupied by caribou is located on the periphery of the herd's home range, it is very susceptible to modification due to natural variation in the herd's distribution. Furthermore these caribou almost invariably show a clumped distribution regardless of the season.

These same arguments could probably be used against the generation of Tables 6.14 to 6.16 for the Red Wine herd and for Tables 6.17 to 6.19 for resident animals in LLT area 2.

Despite acknowledgement of the method's shortcomings by the authors, I find this approach dangerously misleading and far too academic for practical purposes.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 2

Reviewer: Juniper, I.

Guideline Section # 4.0 (p. 11)

EIS Page(s) 4-25; 6-23

Nature of Deficiency

The Guidelines require that the Proponent "...make full use of the knowledge, understandings and interpretations of aboriginal persons". I can find no reference to observations by Natives on the behaviour of caribou when over-flown nor of their opinion of the overall effects of this type of harassment on caribou. Nor do I find any native input into ecological descriptions of these herds.

Rationale

Given that certain native groups are participating in the review process and have already made public their preoccupations, it seems inconceivable that their opinions and observations are not at least mentioned in those parts of the EIS dealing specifically with caribou.

* To be completed for each major defiency listed in Form A

Signature

November 20, 1989.
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 3

Reviewer: Juniper, I.

Guideline Section # 6.4.1.4 (iv)

EIS Page(s) 4-2; 4-27.

Nature of Deficiency

Gross underestimate of population size of George River herd. Crête (Crête et al., 1989. Estimation du nombre de caribous associés à l'aire de mise bas de la rivière George en 1988 et revision des estimations antérieures. MLCP, Québec, 48 pp.) estimates current size at 682,000 ± 36%.

Rationale

An underestimate of this magnitude tends to grossly undervalue a principal "Valued Ecosystem Component".

* To be completed for each major defiency listed in Form A

Signature

November 20, 1989.
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 4

Reviewer: Juniper, I.

Guideline Section # 4.0 (5)

EIS Page(s) 6-23 (6.4.2.1)

Nature of Deficiency

It is suggested that "about 17,000 caribou may be present in the extreme northern sections of the training area". Existing data on occupancy rates of caribou in this area do not permit such predictions.

Rationale

Attempts to quantify caribou occupation of a relatively small section of their range based on past frequentation can be misleading. Experience has shown that there is usually significant variation between years and indeed within any single calving season. This is an attempt to oversimplify a very complex situation.

* To be completed for each major defiency listed in Form A

Signature

November 20, 1989.
Date

TEC-9

169 Hamilton River Road, Happy Valley, Labrador
P.O. Box 913, Stn.A, Goose Bay, Labrador A0P 1E0
TEL.(709) 896-2997/2998 (FAX) 896-8908

November 20, 1989

Dr. M.H. Sadar
Chairman
EIS Review Coordinating Committee
Federal Environmental Assessment Review Office
13th Floor, Fontaine Building
Hull, QUEBEC
K1A 0H3

Dear Dr. Sadar:

Review of EIS for Identification of Major Deficiencies

This exercise has been extremely difficult for the following reasons:

- The questions posed by the guidelines are answered (when they are) throughout the entire text. Given the correlating the reader must do to mesh the guidelines with the EIS it would have been helpful to have page numbers included in the concordance.

- The EIS report reads like a collection of individual reports which have not been correlated and edited, making this massive document even more difficult to read, extremely easy to misinterpret, and very difficult to comment on. The way it is written it would need a highly detailed subject index to make the report remotely workable in its present form. Early sections of the report make broad statements, leaving out important information and facts - sometimes these are brought in later sometimes not - so massive amounts of notes must be kept to ascertain if the earlier omissions have been brought into the report in a later section.

- Realizing some of the problems with the report it became necessary to read both the EIS and Technical Reports all the way through, not just the primary and secondary sections designated by the Panel. Not only is relevant subject information scattered throughout the report, it was

found that the concordance does not always allude to relevant sections. While the reviewer might remember having read the information somewhere else in the text, the form of the report makes it difficult and time consuming to relocate such information. Technically speaking the report sometimes does not answer the question with the concordance but it <u>does</u> answer the question in the overall report. In another area the concordance cited had no relevance to the question (i.e: Guideline 8.5 (i) .. the question of adverse affects on outlying communities by the Project attracting manpower and capital that would otherwise have been available for other regions of Labrador. The concordance cites 8.21.2 which is about public health in Central Labrador!)

- Much of the text is frustratingly vague and unscientific (even when there is no need to be). It is sprinkled with misspellings, is often unclear, some of the extrapolations are questionable and issues/impacts are not addressed.

The accompanying Form A lists deficiencies that have been identified, and Form B describes the nature of the deficiencies and the rationale.

If you require further information or clarification of any of the issues addressed, please do not hesitate to contact me.

Yours sincerely,
NORTHERN DESIGN AND MANAGEMENT LIMITED

Sadie Popovitch-Penny
President

encls.

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFICIENCIES)

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Date: November 20, 1989

Deficiency No.	Panel Guidelines Section	EIS Page(s)	Nature of Deficiency		Additional Remarks
			Major	Minor	
1	4.0	4-23		X	Livestock and agriculture omitted.
2	4.0	6-17 6-19		X	Range of uncertainty of the predicted changes = range of possible impact?
3	4.0	6-93- 6-98		X	Omits cumulative effect of debris in the ocean range.
4	4.0	7-7		X	No support personnel identified for Component 1?
5	4.0	6-157 3-49	X		See p. 1, Form B
6	4.0	6-22/23	X		See p. 2, Form B
7	4.0	6-65/66	X		See p. 3, Form B
8	4.0	Appendix IV	X		See p. 4 - 4.3, Form B
9	4.0	5A-2/3	X		See p. 5, Form B
10	5.0 (1)	6-103		X	1992-93 missing from Table 6.25
11	5.0	6-102- 6-126	X		See p. 6, Form B
12	5.0 (2)	6-174	X		See p. 7, Form B
13	5.0 (4)	6-130/131	X		See p. 8, Form B

HARP REVIEW OF MILITARY FLYING ACTIVITIES IN LBRADOR AND QUEBEC

FORM A (LIST OF ALL DEFICIENCIES)

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Date: November 20, 1989

Deficiency No.	Panel Guidelines Section	EIS Page(s)	Nature of Deficiency		Additional Remarks
			Major	Minor	
14	5.0 (5)	6-153/154		X	Angling and sport hunting impact omitted in this section.
15	5.0 (8)	6-56		X	Noise only - debris also a concern.
16	5.0 (8)	6-96/98		X	Noise only - debris not addressed.
17	5.0 (9)	2-9-2-13	X		See p. 9, Form B
18	6.2.3	2-9	X		See p. 10, Form B
19	6.2.3	2-9	X		See p. 11, Form B
20	6.2.3	2-9		X	Craft industry ($1.8 million in 1987) omitted.
21	6.2.3	5-62/63		X	No coverage of local gardening or livestock, grass collection, chicken farming, etc.
22	6.2.3	5-27-5-36		X	No information given on local, municipal, regional and provincial land use and management plans.
23	6.4.2	See attached	X		See p. 12, 12-1, Form B
24	6.4.2 (vi)	5-11		X	Rigolet '43-'44 army post omitted.

HARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFICIENCIES)

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Date: November 20, 1989

Deficiency No.	Panel Guidelines Section	EIS Page(s)	Nature of Deficiency		Additional Remarks
			Major	Minor	
25	6.4.2 (viii)	5-41		X	Park and recreation areas omitted as is the Town Plan (1988-1998)
26	6.5 (i)	6-157		X	Does not measure adverse v.s. positive impact.
27	6.5 (vi)	5-46/5-48	X		See p. 13, Form B
28	6.8	9-6		X	Metis omitted 9.3.2.1
29	6.8	9-8		X	9.3.2.2 does not define types of agencies and groups.
30	6.8	9.8		X	Monitoring study to be implemented in 1990?
31	6.8	9-8		X	9.4.5 alludes to sensitive issues but does not define issues.
32	6.8	9-9	X		See p. 14, Form B.

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 1 (#5, Form A) Page # 1

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 4.0(5)

EIS Page(s) 6-157, 3-49

Nature of Deficiency

P. 6-157 states that aircraft are required to fly at subsonic speeds over the North American landmass, yet Component 2, section 3.2.6.2 (p.3-49) describes sonic booms which will occur.

Rationale

Although impact predictions are explicit, there is no mechanism describing how sonic booms will be allowed in the future, if they are not allowed now.

Signature: S. Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 2(#6, Form A) Page # 2

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 4.0(7)

EIS Page(s) 5-22, 5-23

Nature of Deficiency:

Forestry is omitted as being of particular relevance to the study area.

Rationale:

Forestry is considered one of the major potential industries for the study area (pulpwood production, pulp mill, sawmills, etc., is indicative of a multi-million dollar industry, which is actively being promoted by the provincial government).

Signature: S. Popovitch Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 3 (#7, Form A) Page # 3

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 4.0

EIS Page(s) 6-65, 6-66

Nature of Deficiency:

Underwater noise levels have not been measured. Cumulative underwater noise levels have not yet been determined. No technical report on training impact on marine life.

Rationale:

This whole section leaves a lot to be desired and we don't know how they can claim no effect on marine fish when: (1) the range touches both Makkovik and Hamilton Banks, where cod spawning takes place but no information is given on it; and (2) no other tests were done to check effects or even to test their computer generated hypothesis.

Signature: Sadie Popovitch Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 4 (#8, Form A) Page # 4 to 4-3

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 4.0

EIS Page(s) Appendix IV

Natura of Deficiency:

See attached.

Rationale:

See Attached

Signature: S. Popovitch-Penny

November 20, 1989

Page by Page Comments

P. iii, item #14. It is not a NATO training base. There is a very big difference between a base and a centre.

P.3, Table 1. On p. 28 it just states university, not university degree. Since the largest percentage of people interviewed had university (or university degree) it would seem that that also would warrant a footnote.

P. 4, Table 2. The Happy Valley ratio is out of line. Considering it is part of the highest impact area it deserves a greater representation.

P. 11, Table 14 and text. It is not a NATO base. The wording for the choices: *"Expanded Canadian-run Base"* and *"NATO Base"* are VERY misleading AND wrong! Under any circumstances (except a NATO Base, which it isn't) the Canadians run the base and who should know better than those doing the study. The EIS 3.2.1.3 clearly states that the CFB Goose Bay Commanding Officer is in charge.

P. 12, section 1.2.6. All that is inferred from the questionnaire certainly IS within the scope of the study!

P. 13, section 1.2.7. The statement: *"six respondents had only grade school education"*, particularly when speaking of Mud Lake where only ten (10) interviews were held, sounds belittling and insensitive.

P. 15., no. 7). How can they state there is a low degree of awareness based on the answers to #10 and #11? With respect to no. 8), Happy Valley had 88% -- surely that qualifies for a mention!

P. 18, question 2. For accuracy, it should read Hospital/Dental Clinic. Also, why include bowling separately from sports? A second question involving a breakdown of indoor and outdoor sports would have helped to give a clearer picture of civilian usage of base sports facilities.

P. 18, question 4. About 12 pages earlier there is an explanation of what the percentages in the second part of the question (and many others that follow) represent. There should be an explanation at the top of this page.

P. 19, question 10, 11. The answers to these questions are subjective, unmeasurable and nearly meaningless.

11 A and B. As above. It is not a NATO base and will always be in Canadian Control.

P. 19, Questions 12, 13, 14, 15. Why don't these add up to 100%, even if there was a large percentage of "no response".

P. 20, question 18. This question, as stated, is completely out to lunch! (1) base expansion is also MMOU, not just NATO; (2) all expansion is going to be a combination of military and civilian jobs so naturally some of those jobs must go to DND and ALLIED (limiting to NATO is incorrect) personnel. I doubt if anyone answering the question felt that any one of the answers should be 100% - the answers should have been allowed as "What percentage of civilian jobs do you see going to: 1) local people, 2) military dependents, 3) other civilians, and 4) no opinion.

P. 20, question 21. Another one that doesn't add up to 100%. "Do not wish to work" should also be an option.

P. 21, questions 32 and 33. These two should be sub-questions of #31, since they are only in response to the 37% which answered "yes", but as such they should each add up to 100%.

P. 22, question 34. This question should have been preceded with a similar question asking if they think the environment has been affected by the current low-level flying.

P. 22, question 35. Should be 100%, even if the remaining had no opinion.

P. 22, question 37 and 38. Surely there was a 100% response to these!

P. 22, question 41. This should be a sub-question of #40.

P. 23, question 43. Not a NATO base. The question is very misleading and alarmist because plans are underway for new facilities (also stated in the EIS 5.4.8).

P. 23, question 44. The question is ambiguous. Which taxes? Federal, provincial, municipal, combined?

P. 23, question 47. Should have included "Followed family or friends to area".

P. 24, question 55. Why the constant question of Canadian-run base (see 3.2.1.3). The question seems to mean expansion of present low-level flying and should state that. There should be a preceding question asking how people feel about the present level of flying as well.

P. 24, question 56. Not a NATO base.

P. 25, questions 61 and 62. These direct questions should add up to 100% but one is 103% and the other is 102%.

Signature: Sebastian Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 5 (#9, Form A) Page # 5

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 4.0

EIS Page(s) 5A-2.3

Nature of Deficiency:

Three major organizations were omitted from the consultation process: THEM DAYS, Mokami Regional Development Association and Mokami Project Group. Also, does local authorities include town councils, e.g. the Town of Happy Valley Goose Bay?

Rationale:

THEM DAYS archives and publications are a major resource for interpreting the knowledge and understanding of aboriginal and other Labrador people; MRDA and MPG are grass roots development organizations in close contact with local and regional issues; Local people are not cited (with one exception, see p. 8-127) and their observations are not noted (rather, published sources are referenced; yet, we know of local observations which are in conflict with study findings).

Signature: Sadie Popovitch-Penny

November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 8 (#11, Form A) Page # 6

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 5.0

EIS Page(s) 6-102 to 6-126; 5-43 to 5-56

Nature of Deficiency:

There is no technical report or consolidated baseline detailing Component 1/Component 2 assumptions and I/O modelling details.

Rationale:

Information is scattered throughout the entire text and there is not enough information given (explanation of figures - what they include, source, etc.) to test the figures against other known studies and documents. In fact, within the EIS report itself there are contradictions e.g. p. 6-102 gives Component 2 transient personnel as 3,365. Eight pages later (p. 6-110) the same projection is listed as 2,740 - a difference of 625. The p. 6-111 figure of $6.9 million would indicate the latter figure is used. Does this mean that the lower transient figure is the one employed throughout the model? What type of model was employed - open or closed?

Signature: Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 7 (#12, Form A) Page # 7

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 5.0 (2)

EIS Page(s) 6 174

Nature of Deficiency:

Noise levels not measured.

Rationale:

Noise levels were not measured in one of the most critical places in Spruce Park - i.e. Spruce Park Elementary School; nor does it appear that teachers were interviewed.

Also, it appears that residents of Hamilton Heights were not surveyed.

Signature: S. Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 8 (#13, Form A) Page # 8

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 5.0 (4)

EIS Page(s) 6-130, 6-131

Nature of Deficiency:

The effects of the Project on the culture of non-native residents of Happy Valley are allocated only minor importance.

Rationale:

Very small sampling of Happy Valley residents, as compared to other areas, does not seem to be representative. Resource harvesting is culturally important to the large number of non-natives (ie. Newfoundlanders and Labradorians) residing in HV/GB.

Signature: S. Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 9 (#17, Form A) Page # 9

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 5.0 (9)

EIS Page(s) 2-9 to 2-13; 6-154 to 6-159

Nature of Deficiency:

Effects of the Project on the process of negotiation and settlement of land claims are not defined, nor is the need for monitoring of this process.

Rationale:

The only link we could find between land claims and the Project was: *"Considering Canada's recent history with land claims, this Project could be the catalyst...."* (p. 6-158). While land claims has also been alluded to in other sections of the EIS, no reference is given to these sections in the concordance.

Signature: S. Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 10 (#18, Form A) Page # 10

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 6.2.3

EIS Page(s) 2-9

Nature of Deficiency:

2.5.2.3 omits Labradorite/Soapstone
2.5.2.4 omits projected large scale forestry developments

Rationale:

2.5.2.3 For several years, Labradorite mining has been ongoing. Both Labradorite and soapstone harvesting/mining are an integral part of the craft industry in Labrador (which is not addressed in the Report).

2.5.2.4 For the past several years there have been three major (multi-million dollar) forestry projects under consideration.

Signature: S. Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 11 (#19, Form A) Page # 11

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 8.2.3

EIS Page(s) 2.9

Nature of Deficiency:

2.5.2.5 does not mention present shortage of electrical power.

Rationale:

For example, plans are underway to construct gas generator to supplement power as an interim measure. Also, while inter-provincial agreement is *"perhaps most important"* as indicted in the report, what about financing this multi-billion dollar undertaking?

Signature: S. Popovitch-Penny

Date: November 20, 1989

KARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 12 (#23, Form A) Page # 12 to 12-1

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 6.4.2

EIS Page(s) as indicated below

Nature of Deficiency and Rationale:

Section 6.4.2 has serious gaps, errors and omissions in information in the following areas:

5.3.5 (p. 5-24) omits destinations - Halifax, Blanc Sablon, Ottawa, (seasonal) Montreal and IGA medical plane; part of Goose Bay information unclear; omits groomed winter trail system; and rail link at Esker.

5.3.6 (p. 5-27). Figure 5.6 (and the majority of maps in the entire report) omits sea range and corridor. Mokami trail system is also omitted.

5.3.7 (p. 5-36). Historic and spiritual/cultural sites and areas of archaeological significance are not addressed. The report does not discuss how AMCS relates to the proposed sea range/corridor. What is the mechanism/authority which provides approval for the sea range and its location?

No map of archaeological sites, even published sources, is included (as archaeological activities are published on a regular basis, the source is reliable and close to complete). No apparent survey of the weapons range, nor of the Goose Bay Airport expansion site was carried out.

5.4.4 (p. 5-44) neglects to address population decline of 1976-77 and closure of LinerBoard with resultant loss of 600+ jobs. Also neglects to mention the federal agreement to maintain the base for five years in an effort to stabilize population and enhance development.

5.4.5 (p. 5-48). Table 5.24 is inaccurate.

5.4.6 (p. 5-49). Information in Table 5.35 is questionable.

5.4.7 (p. 5-49). No projection of numbers of military-dependent children that would have to be accommodated in the school system. Elsewhere in the Report (5.4.16, p. 5-66) mention is made of the fact that the one high school available is now at capacity. Yet, there are three high schools (as indicated in Table 5.27) with available capacity of 270.

5.4.8 (p. 5-51) What about patients with specific ear problems? How does the project area stand up, statistically, with other areas in relation to various illnesses, accidents, etc.

Civilian dental clinic omitted.

Paddon Home apartments are not described under this section, but are mentioned under section 5.4.9 (p. 5-53).

There is no mention of military policy on alcohol and drug addictions.

ADDC deals with all of Labrador, so assumption that *"no need to expand personnel"* is ridiculous.

EAP programs are not mentioned.

5.4.10 (p.5-55) omits discussion on service clubs and non-profit organizations; the importance to northern isolated areas where entertainment is limited; Melville Library; Them Days Archives; Heritage Museum; and attributes Labrador Friendship Centre and adult education classes to the TOWN (incorrectly). Non-facility types of recreaton omit cycling corridor, swimming, surfing, boating, or any summer activities.

Signature:

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 13 (#27, Form A) Page # 13

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 6.5 (vi)

EIS Page(s) 5-46, 5 48

Nature of Deficiency:

Lack of information on labour force, job types, training requirements, facilities, etc.

Rationale:

The EIS report does not respond to Guidelines Section 6.5 (vi) in any meaningful way. What types of jobs will be available? Are qualified staff available in the study area (i.e. what does the local labour pool consist of?). What training programs will be required? New facilities? Costs? Funding sources?

Signature: S. Popovitch-Penny

Date: November 20, 1989

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Deficiency No. 14 (#32, Form A) Page # 14

Reviewer: Sadie Popovitch-Penny/Judy McGrath

Guideline Section # 8.8

EIS Page(s) 9-9

Nature of Deficiency:

Emphasis placed on George River Caribou Herd.

Rationale:

Particular emphasis should be placed on monitoring resident caribou herds where the major impact is, and will continue to be (see Fig. 8-13, p. 8-39.)

Signature: S. Popovitch-Penny

Date: November 20, 1989

TEC- 10

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X9

FAX: 709 737-4000

F.E.A.R.O.
FILE
Ref:
NOV 21 1989
REC'D / REÇU

Date: 22 November 1989

To: Dr. M. H. Sadar

Company: Federal Environmental Assessment Review Office

Department: EIS Review Coordinating Committee

No. of Pages (Including Cover Page): 2 FAX: 819-994-1469

From: Douglas Morris

Department: Biology Account #: 330226

REMARKS:

Dear Dr. Sadar:

Here is my review of the Goose Bay EIS. As you can see I have several reservations about the quality of the report. In my view, it is not yet ready for public review because the conclusions regarding small mammals often cannot be substantiated by data. This may very well be a problem associated with other taxa as well. If other reviewers express similar reservations it may be necessary for us to meet with the panel and DND to discuss the document in more detail.

Please acknowledge receipt of my review.

Sincerely,

Doug Morris

DEPARTMENT OF BIOLOGY
Memorial University of Newfoundland
St. John's, NEWFOUNDLAND
A1B 3X9
CANADA

Phone: 709-737-4583; 737-7498
FAX: 709-737-4569
19 November, 1989

Dr. M. H. Sadar
Chairman
EIS Review Coordinating Committee
Federal Environmental Assessment Review Office
13th Floor
Fontaine Bldg.
Hull, QUEBEC
K1A OH3

Dear Dr. Sadar:

I append my review of deficiencies in the EIS on Military Flying Activities in Labrador and Quebec as per your instructions of 1 September and 9 November, 1989. In addition to my formal review of the scientific quality of the information provided on small mammals in Labrador and eastern Quebec, there are several other issues that I would like you to bring to the panel's attention.

The amount of time allocated for review of the EIS was insufficient. In my case, I received the EIS on 14 November 1989. On 15 November I received notification that the review should be complete by 17 November. Apparently my copy of the EIS was sent to Alberta even though I had previously communicated a change of address to FEARO. Nevertheless, I consider even a two-week notice for review of such a massive document insufficient to assess the scientific quality of the research. I realize that there are great pressures to expedite the review of the EIS, but those pressures should not compromise the review process by restricting the time available to conduct a thorough and conscientious review.

I have, however, been able to read the salient features of the document that address the possible effects of current and planned military activities on small mammals. I have been unable to read other parts of the document that deal with other groups of animals or those parts dedicated to the human environment, or to read any of the technical reports other than 4-D. Many of the reports contain information that would appear necessary to assess military impacts on the natural environment. All technical reports should have been made available to each technical expert.

There are 'deficiencies' in the EIS that are unsuitable to document on the review forms you have provided. Some of these have serious implications

that reduce the effectiveness of the environmental review process. It is clear, for example, that very little is known about the biophysical environment of Labrador, and even less about the relationships among ecosystem components. This means that we can place very little confidence in any predictions regarding the effects of low level flying or other human activity on ecosystem function and integrity in Labrador.

Our ability to assess environmental impacts in Labrador is limited by two kinds of ignorance. On one hand, our biophysical inventory of Labrador is rudimentary. On the other hand, our understanding of the structure, function and evolution of northern ecosystems is far too primitive to anticipate future trends and impacts. It would therefore seem necessary for both the proponent and the Department of Environment to initiate a protocol that can address both of these problems.

Such a protocol should include at least four essential components. First, the views of technical advisors should be solicited prior to the development of guidelines for the EIS. Major gaps in knowledge should be identified at this early stage so that they can be effectively addressed during field research involved in the impact assessment. Second, a proportion of the funds dedicated to impact assessment should be made available for fundamental research on a competitive peer-review basis. The administration of these dedicated funds could be handled either through the Department of Environment or through the Natural Science and Engineering Research Council. Third, the monitoring component should address fundamental gaps in knowledge as well as project enhancement. Funds for this research could be generated as a proportion of total capital and operating expenditures for the project, and similarly be allocated on a competitive peer-review basis. Fourth, a fraction of the assessment funds should be set aside for the education and training of scientific researchers and their technical assistants through workshops or explicit specialized courses.

I cannot over-emphasize the need for basic research in ecology and evolution, and for more highly qualified field ecologists. The validity of any environmental assessment process will be questionable until we have a more thorough understanding of fundamental processes and patterns in natural systems. That understanding can only be attained by increased commitments to basic research and higher education. In this regard CFB Goose Bay could play a substantial public relations and scientific role by providing logistic support and air transport to qualified researchers interested in reducing knowledge gaps in Labrador.

There are a variety of issues that, while not properly called deficiencies, should be addressed prior to public hearings. The population-based criteria used to rate the significance of impacts on valued ecosystem components appear to have been misapplied. Several impacts on small mammals which can be expected to disturb a portion of many small mammal populations (e.g. live weapons ranges) have been given minor rather than moderate ratings. Moderate impacts would seem to be a necessary consequence of recognizing realistic population boundaries for these species. The current supposition that small mammal species are essentially represented by only one population is untenable. This issue must be addressed because it may have major implications on the final projected impacts on small mammal species.

The population-based criteria themselves are suspect for species that have complex population dynamics. Impacts which modify population densities in such species may not be nearly as important as those that modify population structure or other crucial processes affecting population dynamics and community organization. This viewpoint is especially critical for the dynamics of furbearers which may be closely linked to the equally complex dynamics of a variety of alternative prey species. Few, if any, attempts have been made to assess the effects on populations by chronic exposure to low level flying or to assess how any impacts might change with the frequency and duration of low level flight training. Whereas it may be impossible to resolve these issues, they certainly need to be addressed, both in the EIS and in subsequent monitoring.

Another issue that should be evaluated is the possibility that the dispersal of 'chaff' could have negative effects on small vertebrates either through ingestion or by incorporation into nests. This is rather important because ground densities of chaff may reach appreciable levels. Similarly, the sensitivity of small mammals to aircraft noise has not been assessed. This latter point would appear to be a rather significant oversight because there are no mitigative measures available to counteract any negative impacts.

Other key issues include the uncertain location of the additional 20,000 km^2 in LLT 1 and the placement of weapons ranges and threat emitters. It is impossible to accurately assess potential impacts without knowledge of these locations. All sites should have been selected during the EIS process and the areas assessed for possible impacts prior to public hearings. The GIS alternative is a very positive mitigative step, however it would have been much more valuable to have used it to select suitable alternative locations for environmental impact assessment.

The monitoring program is inadequately described. No testable hypotheses have been proposed and it is impossible to determine which components will be monitored or for how long. The description of the Environmental Protection Plan is too vague to assess either its merits or limitations. There are no statements on experimental protocols and there are no statements on post-abandonment monitoring, even though several ecosystem components are not expected to reach pre-disturbance states until several years after project termination.

Perhaps the most glaring deficiency in the EIS is the lack of a consistent scientific approach to impact assessment. I found no testable hypotheses on the expected impacts of military activities on small mammals. I could detect no experimental protocol to assess potential impacts on small mammals, or any statement that specified the minimum amount of information required to carry out an effective assessment. The procedures used to estimate impacts were rarely stated explicitly and the confidence levels of estimates were never verified by statistical analysis.

When field data on small mammals were collected the sampling intensities were far too low for quantitative analysis of the results. Errors in Technical Report 4-D don't even allow the reader to identify which species were captured (note *Napaeozapus* on page 9 is converted to *Zapus* on page A-2). Over-statements on synchrony of population fluctuations in an area of 300,000

km^2 based on 1539 trap nights spread across four sites with a total catch of nine animals do little to improve confidence in either the report or those responsible for its scientific credibility. A similar lack of confidence is engendered by the statement (page 4-46) that 'an abundant red-backed vole population' 'coincided with increased martin returns from 1982 to 1987' when, in fact, small mammal sampling did not begin until 1985. Even the term abundant is misused because there is no comparison with literature estimates of density in other areas. These examples demonstrate that the EIS does not meet the normal design, analysis, or interpretive standards expected of ecological field research.

There are very likely other issues that should be addressed prior to public hearings. The above comments and the accompanying list detail only those more serious issues and deficiencies that I have been able to identify in the time available to me to review the sections of the EIS which I interpret to by my primary responsibility. With additional time, I suspect that more short-comings would have been revealed. There are, no doubt, several strong points in the EIS as well, but this review has concentrated on identifying points of weakness that may jeopardize the impact assessment process. I hope that my review is of value to the panel in their deliberations on military activities in Labrador and Quebec.

Sincerely,

Douglas Morris

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF DEFICIENCIES)

Reviewer: Douglas Morris

Date: 21 November 1989

Deficiency Number	Guidelines Section	EIS Page(s)	Nature of Deficiency	Additional Remarks
1	6.4.1.4 6.5, 4.0(6)	4-44 - 4-54	Major	See form B, page 1.
2	6.4.1.4 6.5, 4.0(6)	4-44 - 4-54	Major	See form B, page 2.
3	6.4.1.4 4.0(1)	4-44 - 4-54	Major	See form B, page 3.
4	6.4.1.4	4-44 - 4-54	Major	See form B, page 4.
5	6.4.1.4 4.0(1)	4-44 - 4-54	Major	See form B, page 5.
6	6.4.1.4 6.5, 4.0(2)	4-44 - 4-54 Technical Report 4-D	Major	See form B, page 6.
7	6.4.1.4 4.0(1)	4-44 - 4-54	Major	See form B, page 7.
8	6.3.3(x)	3-14 6-75 - 6-80 7-44	Major	See form B, page 8.
9	4.0(2) 4.0(5)	6-20 - 6-22	Major	See form B, page 9.
10	6.5(iii)	3-52, 6-77	Major	See form B, page 10.
11	4.0		Major	See form B, page 11.
12	6.5	6-48	Major	See form B, page 12.
13	5.0(7)	6-96 - 6-97	Major	See form B, page 13.
14	5.0(5) 5.0(7)	6-93 - 6-98	Major	See form B, page 14.
15	4.0(3)		Major	See form B, page 15.
16	5.0(5)		Major	See form B, page 16.

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF DEFICIENCIES)

Reviewer: Douglas Morris

Date: 21 November 1989

Deficiency Number	Guidelines Section	EIS Page(s)	Nature of Deficiency	Additional Remarks
17	5.0(2)	6-46	Major	See form B, page 17.
18	5.0(3)	6-68	Minor	Insufficient sampling of vegetation for analysis and inadequate description of the sampling protocol for monitoring.
19	6.5	6-77	Minor	No data on the degree of disturbance to vegetation in the practice target area.
20	6.5	6-80	Minor	No data on habitat loss in the live weapons ranges.
21	6.5	6-82	Minor	If aircraft crashes have an impact on vegetation, there must be a similar impact on small mammals.
22	5.0(7)	6-95	Minor	Absence of the CEARC manual should not be used to justify a lack of attention to cumulative impacts.
23	5.0(5)	6-132	Minor	An area should not lose importance for an activity simply because harvesters have moved to another area. Resource renewal rates might be modified by resumed military activity.
24	5.0(6)	6-184	Minor	The abandonment protocol is inadequately addressed. Revegetation and other restorative procedures should be discussed in detail.
25	6.8	7-27	Minor	The environmental protection plan should be described in detail.

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF DEFICIENCIES)

Reviewer: Douglas Morris

Date: 21 November 1989

Deficiency Number	Guidelines Section	EIS Page(s)	Nature of Deficiency	Additional Remarks
26	6.6, 5.0(7)	7-30	Minor	There is no apparent mitigation for cumulative effects.
27	6.7	8-5	Minor	The unit of generation time to detect impacts is vaguely described and may not be appropriate for species with cyclical dynamics.
28	6.8	9-2	Minor	The monitoring program should be explicit.
29	6.8	9-5	Minor	Frugality should not be a design concern of the monitoring program especially because it may be in direct contradiction with the statistical and methodological requirements of the monitoring process.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 1

Reviewer: Douglas Morris

Guideline Section(s) # 6.4.1.4, # 6.5 & # 4.0(6)

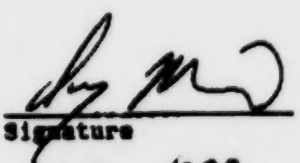
EIS Pages(s) 4-44 - 4-54

Nature of Deficiency

There is no indication as to the uniqueness of the Labrador mammal fauna.

Rationale

Most mammal species that occur in Labrador have, at one time or another, been considered to have distinct sub-species in Labrador and eastern Quebec. This suggests a fauna that has a unique evolutionary history and one that may need special consideration. A significant portion of each sub-species range occure in the LLT areas. The factors responsible for the evolution of unique populations in Labrador need to be addressed. If the Labrador populations do indeed represent distinct sub-species, it may be quite inappropriate to use empirical models of the same species from other parts of their geographic range to assess possible impacts.



Signature

22 Nov 1989

Date

LARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 2

Reviewer: Douglas Morris

Guideline Section(s) # 6.4.1.4, # 6.5 & # 4.0(6)

EIS Pages(s) 4-44 - 4-54

Nature of Deficiency

There are insufficient statements as to previous research and collections of Labrador mammals.

Rationale

Very little is known about Labrador mammals. Few taxonomic collections have been made and there have been even fewer studies of population dynamics, habitat use, and community structure. The lack of information as well as possibly distinct evolutionary histories (major deficiency # 1) suggest that our confidence in the state of knowledge on Labrador mammals should be very low.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 3

Reviewer: Douglas Morris

Guideline Section(s) # 6.4.1.4 & # 4.0(1)

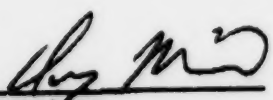
EIS Pages(s) 4-44 - 4-54

Nature of Deficiency

There is an inadequate discussion of the prey base on which carnivorous furbearers feed.

Rationale

Carnivorous furbearers are of major economic and cultural value to virtually all human communities within the study area. The population dynamics of these species are inextricably linked to the dynamics of their major prey. This suggests that the predator-prey interactions be documented in as rigorous a manner as possible and that the dynamics of major prey species be addressed as well.



Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 4

Reviewer: Douglas Morris

Guideline Section(s) # 6.4.1.4

EIS Pages(s) 4-44 - 4-84

Nature of Deficiency

Key components of life history of virtually all furbearers and their small mammal prey are not described.

Rationale

It is impossible for the public to assess the potential impacts of military activity in absence of information on life history. At a minimum, the reader should be given current information on traits such as the frequency of reproduction, litter size, generation time, body size and expected survival of all species considered to be valued ecosystem components.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 5

Reviewer: Douglas Morris

Guideline Section(s) # 6.4.1.4 & # 4.0(1)

EIS Pages(s) 4-44 - 4-54

Nature of Deficiency

There is an incomplete checklist of Labrador mammals even though all can be expected to be susceptible to impacts of low level flying. Habitat requirements of most species are also missing.

Rationale

It is impossible to assess potential impacts if species ranges and habitat preferences are not indicated in the report. GIS maps including species ranges could be productively used to help in the selection of practice target areas.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 6

Reviewer: Douglas Morris

Guideline Section(s) # 8.4.1.4, # 8.5 & # 4.0(2)

EIS Pages(s) 4-44 - 4-54, Technical Report 4-D

Nature of Deficiency

There are too few data on population dynamics or demography of virtually all species of small mammals. There are incomplete and dated references to the literature of mammal population dynamics. The implications of cyclical dynamics to impact assessment, to human harvesting strategies, and to population estimation are inadequately addressed. Field protocols were piecemeal and the sampling effort was inadequate to reach any valid conclusions on population densities, population dynamics, patterns of distribution or community composition. The field data were not stratified by habitat and cannot be adequately replicated during monitoring to assess potential impact effects. Substantial knowledge gaps in the dynamics, distribution, species interactions, habitat preferences, and life histories of small mammals were not documented.

Rationale

Lack of the above data make it impossible to infer potential impacts on small mammals and to assess potential influences through monitoring.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 7

Reviewer: Douglas Morris

Guideline Section(s) # 6.4.1.4 & # 4.0(1)

EIS Pages(s) 4-44 - 4-54

Nature of Deficiency

There are no data on the popul[illegible]on dynamics of hares in Labrador.

Rationale

Hares are often a substantial component of the small game harvest of northern peoples (e.g. page 5-71) as well as a crucial prey base to predatory species.

Signature

22 Nov. 1988

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 8

Reviewer: Douglas Morris

Guideline Section(s) # 6.3.3(x)

EIS Pages(s) 3-14, 6-75 - 6-80, 7-44

Nature of Deficiency

There are no quantitative estimates of small mammal mortalities on live weapons ranges. There are inadequate statements on the degree of habitat alteration on those ranges. There are no reported impacts on furbearers associated with operation of the ranges.

Rationale

It is impossible to assess the dynamics of small mammals in the ranges without data on mortality and habitat destruction. At the very least there should be a statement as to whether any mortality would be additive or compensatory to other mortality sources. There should also be information given on the effects of site abandonment on small mammal populations, and of increased effects of noise associated with the use of live ordnance. Since both habitat and wildlife are likely to be destroyed by live ordnance it is incongruous that no residual impacts for furbearers are suggested in Table 7.5 or in Figure 8.1.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM 2

Major Defiency No. 9

Reviewer: Douglas Morris

Guideline Section(s) # 4.0(2) & 4.0(5)

EIS Pages(s) 6-20 - 6-22

Nature of Deficiency

There is an insufficient documentation of the temporal and spatial boundaries associated with potential impacts to small mammals. The implication is that these species have only one population which is spread more or less evenly throughout the study area. The rationale behind this assumption must be made explicit. Furthermore, there is no attempt to assess impacts on the basis of population or ecosystem dynamics.

Rationale

It is impossible to assess possible impacts without clear statements about temporal or spatial boundaries. The assumption of uniform distribution throughout the study area is at odds with the sub-specific status of many of these species. Habitat affinities of some species have been suggested (e.g. lynx and martin preference for wooded river valleys), but the implications of patchy distribution have not been fully addressed. There is no discussion about possible differences in response even though there are major habitat differences both within and between LLT areas. The implication that the impacts of low level flying need only be assessed in terms of detectable effects on "survival or productivity of a population" is clearly not a valid criterion for use on populations where fluctuations in abundance are expected.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 10

Reviewer: Douglas Morris

Guideline Section(s) # 6.5(iii)

EIS Pages(s) 3-52 & 6-77

Nature of Deficiency

The statement that threat-emitters are not an issue for wildlife is unjustified.

Rationale

No data apparently exist which specify the danger of radio-frequency radiation emitted from ground-based equipment on wildlife. However, exposure to this radiation can be assumed to be harmful up to 700 m from the source. With 50 emitters this translates to a cumulative area of approximately 77 km^2 within which small mammals may be exposed to unacceptable levels of radiation.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 11

Reviewer: Douglas Morris

Guideline Section(s) # 4.0

EIS Pages(s)

Nature of Deficiency

There are no statements on the fragility of northern ecosystems or on their rate of recovery from disturbance.

Rationale

This information is necessary in order to place any impacts into their proper ecological, geographical, historical, and future context.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 12

Reviewer: Douglas Morris

Guideline Section(s) # 6.5

EIS Pages(s) 6-48

Nature of Deficiency

No data have been collected or presented to assess the possible impact of increased night-time flying on nocturnal mammals.

Rationale

Night-time flying is downplayed because it will increase in frequency from only 3 % (current level) to 15 % of all sorties in the future. What is not highlighted is that the total number of night-time sorties may increase from only about 205 (current level) to 2700 (component 1) to 3375 (component 2 [Table 3.1]). This represents an increase in excess of 16 times the current level, and could have major impacts on all nocturnal mammals (including bats).

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 13

Reviewer: Douglas Morris

Guideline Section(s) # 5.0(7)

EIS Pages(s) 6-96 - 6-97

Nature of Deficiency

These pages are missing.

Rationale

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 14

Reviewer: Douglas Morris

Guideline Section(s) # 5.0(5) & 5.0(7)

EIS Pages(s) 6-93 - 6-98

Nature of Deficiency

There are no data or models with which to assess possible cumulative effects. The cumulative effects do not include interactions among valued ecosystem components.

Rationale

Even simple models could be used to relate current harvest rates to increased human population density. Changes in human harvest patterns as a result of increased military activity could have a variety of serious implications to harvest rates, mammal density, and habitat alteration. Cumulative effects must also include possible interactions among ecosystem components in order to assess potential impacts. The nature of the review process, and the lack of an explicit section in the EIS dedicated to interactions among components, reduces the chances to detect significant interactive effects. Small mammals, for example, are not only important prey for both furbearers and predatory birds, but as herbivores they can affect patterns of plant distribution and nutrient cycling in northern ecosystems. Other interactions are equally important. What, for example, are the effects of caribou or human avoidance strategies on other ecosystem components? How will changes in abundance of any one species affect others in the community? What are the implications of both short (4 year) and long (10 year) cycles of abundance in furbearers on community organization and on patterns of resource use by northern residents?

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 15

Reviewer: Douglas Morris

Guideline Section(s) # 4.0(3)

EIS Pages(s)

Nature of Deficiency

No testable hypotheses on small mammals were generated.

Rationale

The quality of monitoring studies will be greatly impeded by the absence of testable hypotheses. This is especially crucial because the small mammal fauna and the dynamics of some of its component species may be unique.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 16

Reviewer: Douglas Morris

Guideline Section(s) # 5.0(5)

EIS Pages(s)

Nature of Deficiency

There are insufficient data on resource use by CAM or NMIA.

Rationale

The lack of these data make it very difficult to assess possible inter-relationships between resource harvesting practices and small mammal populations. The lack of co-operation by CAM and NMIA cannot, however, be allowed to delay the environmental assessment process.

Signature

22 Nov. 1989

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B

Major Defiency No. 17

Reviewer: Douglas Morris

Guideline Section(s) # 5.0(2)

EIS Pages(s) 6-46

Nature of Deficiency

There are insufficient data on the effects of noise from military aircraft on Labrador small mammals.

Rationale

The duration and geographical extent of exposure to noise is likely greater for small mammals than for any other valued ecosystem component. This extreme exposure suggests that the effect of noise on these animals should have been rigorously assessed.

Signature

22 Nov. 1989

Date

TEC-10 A

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MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X9
FAX: 709-737-4000

Date: 22/Nov./89

To: J. Michel Bourgon

Company: Federal Environmental Assessment Review Office

Department:

No. of Pages (Including Cover Page): 1 FAX: 819-994-1469

From: Douglas Morris

Department: Biology Account #: 330226

REMARKS:

I have received and read pages 6-96 and 6-97 of the Goose Bay EIS. This satisfactorily addresses my major deficiency # 13. Deficiency 14 on cumulative impacts remains unchanged. Cumulative impacts should not have been limited to those identified by Peterson et al., and interactions should have been addressed directly.

Doug Morris

TEC-11

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Archaeology Unit

(709) 737-8872

November 21, 1989

Dr. M.H. Sadar
F.E.A.R.O.
13th Floor
Fontaine Building
Hull, Quebec
FAX (819) 994-1469

Dear Dr. Sadar:

My comments on the Goose Bay EIS accompany this letter. Your letter of November 9 did not reach St. John's for over a week, so my comments were somewhat hurriedly prepared. I did have time to review the document thoroughly, however, so the main points are covered in my comments.

It is very clear that the proponent did not require the consultant to carry out the archaeological survey in accordance with the Guidelines and that the section on Mitigation attempts to correct this deficiency after the fact. There are no maps, no references, and no indication that anything but a cursory review of some published literature was accomplished. This portion of the report must, therefore, be rejected.

If you need more information, please do not hesitate to contact me.

Sincerely,

James A. Tuck

Comments on the *GOOSE BAY EIS: AN ENVIRONMENTAL IMPACT STATEMENT ON MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC*

comments prepared by James A. Tuck, Archaeology Unit, Memorial University of Newfoundland, St. John's, Newfoundland

INTRODUCTION

The following comments are based upon a thorough review of the *Goose Bay EIS* including a careful search for any reference to historic and archaeological resources and careful reading of the sections pertaining to historic and archaeological resources. As a result of this process I can offer the following comments regarding the conduct of the study and the report.

Two important paragraphs from the Guidelines for the study (Appendix II of the *Goose Bay EIS*) form the basis for the following comments on the historic and archaeological resource components of the report. Page 4 of the Guidelines states that:

> The Proponent is expected to observe the intent and the letter of these Guidelines and to try to identify all the impacts likely to arise from the Project.

With specific respect to areas of historic or archaeological importance the Guidelines (6.4.2 [vii], page 31) indicate unequivocally that:

> sites or areas of particular cultural, spiritual, or other importance to the aboriginal or other occupants, and other areas of special status, such as ecological reserves, sanctuaries, and areas of archaeological, historical or palaeontological significance. *Archaeological surveys must be conducted in the vicinity of the weapons ranges and on the site reserved for the expansion of the Goose Bay Airport, and in any other areas where the project could affect archaeological sites and where such surveys have not already been carried out*; (emphasis mine).

It is clear from the second quote that the Guidelines call for archaeological investigations in the target areas and in the area proposed for the extension of the Goose Bay Airport; the first quote makes it equally clear that the Guidelines, including 6.4.2 (vii), must be carried out by the proponent. With these two unequivocal statements in mind, the entire document was searched carefully for the report of the results of the archaeological surveys required in the Guidelines.

No such report is to be found in the *Goose Bay EIS* (the two paragraph 'discussion' of historic resources on p. 5-40 will be discussed below). The Newfoundland and Labrador Provincial Archaeologist reports (personal communication) that no permit for such investigations was issued. I am certain that the same answer would be obtained from the Quebec government. It is clear that this represents an unacceptable deviation from the Guidelines and that the *Goose Bay EIS* is itself unacceptable and will remain so until the investigations required by the Guidelines are carried out.

SPECIFIC COMMENTS

Other, more specific, comments on the *Goose Bay EIS* are as follows:

p. 3-13

'No evidence of past use of other weapons ranges was found in the course of this study.' This is not an unexpected statement since no archaeological field investigations were carried out.

p. 3-42

The locations of the tactical weapons ranges will be selected on the basis of site-specific archaeological and other information. If this statement means that ranges are to be selected on the basis of information presented in this report, then archaeological information cannot be considered for there is *no* useful archaeological information in this report. If it is implied that archaeological surveys of ranges are to take place after the locations are selected, then the Guidelines should have reflected this possibility.

p. 5-11

The 'brief review' of the 'history of the settlement of the study area' is not only brief but, even in its brevity, shows many indications of a lack of knowledge of the history and prehistory of the study area. It is by no means certain that the first people to arrive in the study area were the ancestors of the present-day Montagnais and Naskapi. European settlers did come to Labrador during the 1700s, but I am not certain that tinsmiths and carpenters were among the most numerous, or even the most valued, members of these communities or enterprises. The Lower North Shore was exploited by Quebec entrepreneurs beginning in the late 1600s.

p. 5-40

The two paragraphs on this page constitute the bulk of the archaeological reporting on investigations done during the study. It is clear that the required field investigations were not carried out. It is also true that *no* archaeological research has been carried out in most of the study area. Somewhat puzzling is the statement that 'access to site records at the Historic Resources Division was not permitted.' It is my understanding that these records are available to all researchers and the information contained in them clearly should have formed a part of this report. Sites identified in published reports are not enumerated nor is there any indication of which areas have been subjected to archaeological reconnaissance and which have not; this information is crucial for predicting site densities and site importance in the various sub-regions of the study area and for determining sampling strategies for field reconnaissance. The fact that the Quebec Ministry of Culture has identified 309 archaeological sites in the study area, which in no case approaches the coast, suggests that far more sites will be found in the much larger Labrador portion of the study area; this report gives no indication of their number or distribution. This information must be available before any development can proceed in the knowledge that historic resources will not be adversely affected.

p. 5-78

The statement that the Labrador Straits was occupied between 9,000 and 3,000 B.P. is incorrect; it was occupied by Native groups until at least the end of the sixteenth century.

p. 6.1ff

Nowhere in this section on Project Impacts is the impact on archaeological resources discussed. The potential of historic and archaeological resources for tourism in mentioned on p. 6-152 and mentions on the following page the potential for site visitors to be annoyed by aircraft. No mention (6.8) is made of the fact that activities in weapons ranges will destroy any archaeological sites that now exist there. No mention (6.10) is made of the detrimental influence of construction activities to archaeological sites in areas to be developed.

p. 7.1ff

No mention of archaeological sites is made in Chapter 7 - Mitigation. This is probably because the historic resources assessment was not carried out; therefore no data base for historic/archaeological resources appears to exist. Avoidance is clearly the best alternative for the protection of archaeological resources, but since the locations of archaeological sites are not known this mitigation procedure cannot be implemented. A database, developed in accordance with the Guidelines, needs to be available for initial formulation of avoidance policies; such a database needs to be continually updated through monitoring of ongoing activities and investigations of any areas identified for future development.

p. 9.1ff

No mention is made of archaeological resources in Chapter 9 - Monitoring. Section 9.3.1 mentions the need to 'be frugal with respect to the need for baseline data, samples required, human resources, etc.' The *Goose Bay EIS* is clearly an example of such frugality insofar as archaeological resources are concerned. As presented in this report there are no baseline data and no indication that such a data base will be developed.

CONCLUSIONS

From a careful study of the *Goose Bay EIS* it is clear that the requirements of the Guidelines were not met and that at least this component of the report must be rejected and not approved until the Guidelines are met. Moreover, to proceed with any development without addressing the potential destruction of archaeological resources will be in contravention of Newfoundland and Labrador Provincial Law (*e.g.* the Historic Resources Act, December 10, 1985) and the Historic Resources Division's Historic Resource Assessment and Impact Management Guidelines (1982), which require, *at minimum*, a Stage 1 Historic Resources Overview Assessment including documentary search, consultation and interviews with persons knowledgeable about the study area, preliminary field reconnaissance, prediction of historic resource potential and distribution and recommendations for further investigations. Except for the documentary search, none of the other requirements appears to have been met by this report.

TEC-12

Comments on the GOOSE BAY EIS: AN ENVIRONMENTAL IMPACT STATEMENT ON MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

Prepared by M.A.P. Renouf, Archaeology Unit, Memorial University of Newfoundland, St. John's, Newfoundland

INTRODUCTION

As an introduction to my assessment of major deficiencies of the **Goose Bay EIS**, let me summarize those components of the Project that will disturb ground and therefore could potentially disturb or destroy archaeological sites:

EIS, section 6.10.1.2

1. Construction of the NATO Centre, including building a new airport runway involving clearing 100-150 hectares of land.

EIS, sections 3.2.3.2 and 3.2.3.9; table 3.1

2. Construction and use of a second Practice Target Area (PTA) as part of Component 1 of the Project, and construction of an additional four PTA as part of Component 2; total area covered by the PTA will be 2,159 km^2. Construction will typically include simple grading which could disturb an archaeological site, as could any clearance that might be done in order to facilitate equipment access. The variety of inert ordnance to be used, including gunnery ball ammunition, air-to-ground rockets, air-to-ground missiles and practice bombs would cause sufficient ground disturbance to impact on any archaeological site.

EIS, table 3.1

3. Construction and use of three Live Weapons Ranges, covering a total of 1,369 km^2. The live air-to-ground weapons, including bombs, rockets and missiles, and gunnery ball ammunition that will be used could disturb or destroy an archaeological site.

EIS, sections 3.2.3.9 and 6.10.2

4. The planned Academic Range will involve elaborate installations, the construction of which might disturb the ground. A short access road is also planned which could disturb or destroy an archaeological site.

EIS, table 3.1

5. It is not clear what construction activities will be related to the sixty Camera Targets which are planned. There is the potential for site disturbance as a result of constructing simulated targets and possible land clearing activities.

EIS, section 6.10.2
6. Construction of a centrally located Field Facility will involve some land clearance which could have archaeological repercussions.

GUIDELINE REQUIREMENTS

According to the January 1987 **Guidelines for the Preparation of: An Environmental Impact Statement on Military Flying Activities in Labrador and Quebec** various requirements of the **Goose Bay EIS** were explicitly stated. In section 6.4.2 [p.31] it is required that the EIS must describe:

"(v) **past**, present and projected resource use" and "(vii) sites or areas of particular cultural, spiritual, or other importance to the aboriginal or other occupants, and other areas of special status, such as.....**areas of archaeological, historical... ...interest. Archaeological surveys must be conducted in the vicinity of the weapons ranges and on the site reserved for the expansion of the Goose Bay Airport, and in any other areas where the Project could affect archaeological sites and where such surveys are not already carried out.**" (emphasis mine)

This instruction to carry out fieldwork follows from the more general requirement of the Guidelines, section 4.0. [p.9], that "The Proponent must undertake fieldwork or original research wherever necessary to verify or complete existing data or to collect data that are not already available".

In section 6.3 [p.18] it is required that "The Proponent must use maps of a suitable scale....to identify and describe each component of the ecosystem, including social, cultural and economic components"

In section 6.1.1 [p. 15] it is required that the Project Summary "must contain such maps, diagrams, and plans as are necessary to permit the public to form an adequate understanding of the Project.

In section 6.3 [p. 18], it is required that "The Project plans must conform to all applicable regulations, guidelines, laws and by-laws."

To summarize, the January 1987 EIS preparation guidelines required that potential impact of the Project on archaeological sites be assessed and that the assessment process must include fieldwork. It was directed that the results of the assessment must be presented in an adequate manner, including maps showing

relevant information. In this case, relevant information would be 1) location of archaeological sites derived from the literature, 2) location of archaeological sites derived from fieldwork and 3) locations of areas high archaeological potential. It was directed that past resources use in the study area be described and that there must be recognition of and compliance with any pertinent legislation.

EIS DEFICIENCIES IN MEETING GUIDELINE REQUIREMENTS

After careful reading of the **Goose Bay EIS** it is clear that assessment of the impact of Components 1 and 2 of the Project on archaeological resources is totally inadequate, in contravention of the explicit requirements outlined above. The main section of the **Goose Bay EIS** dealing with archaeological material is two paragraphs in section 5.3.7 "Conservation and Heritage" [page 5-40]. The treatment is deficient in the following respects:

1. Absolutely no archaeological fieldwork was carried out.

2. There is no literature survey of previous archaeological sites. The general statement that "Numerous sites pertaining to the various prehistoric and historic cultures...have been identified and investigated by researchers from several institutions" does not constitute a literature review. Furthermore, the institutions listed exclude various researchers from Quebec's Ministere des Affaires Culturelles, the University of Montreal and McGill University, who have been conducting productive archaeological research in Labrador.

3. The excuse that "Access to site records at the Historic Resources Division was not permitted for this study and, thus, an exhaustive list of known sites cannot be provided or mapped" is inadequate on several grounds. Firstly, in order to assess the nature of and reasons for any refusal I would have to see a copy of the official request for information and the official refusal of same, as provided in an appendix. Secondly, the Quebec Government was not approached for its site records. Thirdly, the results of all archaeological work in the Province of Newfoundland is published in a publicly distributed annual report, established in 1980. Information from this, in addition to French and English publications, would be sufficient to provide a substantial map of most of the known archaeological sites in the region.

4. By the EIS' own admission there are numerous sites in the area, including 309 which have been identified by the Quebec Ministere des Affaires Culturelles alone. Potential impact of construction activities on each of these sites must be considered, yet none are named, described, or located on a map.

5. The statement that "The potential for archaeological research throughout much of this study area is significant, but the potential is greatest along the coast and along the river transportation routes" seems intended to diminish the potential for archaeological sites in the interior region. The concentration of archaeological sites at the coast is in part a function of archaeological field methodology which, until relatively recently, has focused on the most easily accessible areas at the expense of the interior. The fact that the Quebec Ministere des Affaires Culturelles has located 309 sites in the interior indicates the high potential for archaeological sites in this region. Since this is the area least archaeologically surveyed to date, there is the greatest need for fieldwork in conjunction with the EIS.

6. There is no description of prehistoric land use in the study area.

7. Despite the Guidelines requirement for the Project plans to conform to applicable laws and by-laws, there is no recognition anywhere in the Goose Bay EIS of the Newfoundland and Labrador Historic Resources Act of December 10, 1985, which legally requires a proponent to conduct at least a Stage 1 Historic Resources Overview Assessment prior to any proposed disturbance of provincial land. A Stage 1 assessment includes documentary research, consultation and interviews, field reconnaissance, prediction of potential for and distribution of historic resources in the study area, and recommendations. There are three subsequent stages through which a proponent might have to proceed prior to possible land disturbance. The Goose Bay EIS makes clear that none of these requirements were met by the Proponent.

COMMENTS ON APPENDIX III: CONCORDANCE TABLE

The discrepancy between the Guidelines requirements and what is contained in the Goose Bay EIS has been obscured in the Concordance Table [p.111-19] where the directives of section 6.4.2. (vii) of the Guidelines are summarized as:

"Identify sites of special importance:
--- to aboriginal persons
--- to non aboriginal persons"

The remainder of the original directive that "other areas of special status, such as areas of archaeological significance... [must be identified]" is excluded and the effect is a misrepresentation of the initial intent.

The Concordance Table summarizes the directive in the second part of section 6.4.2 (vii) in the following way:

"Describe any archaeological surveys conducted"

This is misleading because the original directive did not state

that any surveys that have been or might be conducted must be described, but that archaeological surveys must be done in the area of the expansion of the Goose Bay Airport and any other areas where archaeological sites might be disturbed by Project activities.

COMMENTS ON CHAPTER 7: MITIGATION

The potential impact of the proposed project are not dealt with in the Project description, as required in the Guidelines, but have been deferred to a post-EIS process of mitigation and monitoring, described in Chapters 7 and 9 of the Goose Bay EIS. The Proponent says that since it has not chosen the location of additional Target Practice Areas and other facilities such as Live Weapons Ranges, an Academic Range and a Central Field Accommodation Facility, their location is flexible and will be chosen after site survey for, amongst other things, "historic sites, trading posts, abandoned communities and other historic resources" [p.7-26]. This would be implemented by an Environment Protection Plan (EPP)

> "which will consist of a set of documents covering all phases of the project. The EPP will summarize ....procedures....needed for optimum protection of important resources such as....historic resources." (EIS, section 7.4, p.7-27)

This is unacceptable on two fundamental grounds:

1. It contravenes the original agreement to do such survey work as part of the Goose Bay EIS.
2. The Proponent's proposed deferral of the location of tactical weapons ranges and similar facilities is not agreed to in the Guidelines where in Section 6.3.3 (i) [p. 25], it was required that information be provided on "past, present and future locations [of tactical weapons ranges for Components 1 and 2]". In section 6.2.2. [p. 16] it was required that the EIS must include a "documented justification of the proposed timing and geographic location of the Project and each of its elements. " (emphasis mine).

Given that the suggested deferral is not in accordance with the requirements of the Guidelines, there is no purpose in discussing the inadequacies of the proposed implementation and monitoring procedures with reference to historic resources.

SUMMARY OF COMMENTS

My assessment of the **Goose Bay EIS** is that it has not fulfilled the requirements of the January 1987 **Guidelines for the Preparation of: An Environmental Impact Statement on Military Flying Activity in Labrador and Quebec.** It has contravened those requirements, most clearly set out in section 6.4.2. (v) and (vii), in the following respects:

1. Most importantly, there was no archaeological field work carried out.
2. There is no detailed survey of the published and unpublished French and English archaeological literature.
3. There is no detailed map of site locations.
4. There appears to have been no attempt to gain access to the site files of Quebec's Ministere des Affaires Culturelles
5. Attempts to gain access to the Newfoundland Provincial Government site files were unsatisfactory
6. There is no description of prehistoric land use
7. There is no reasonable assessment of the archaeological potential of the study region
8. There are significant discrepancies between the requirements set out in the **Guidelines** and the paraphrasing of those requirements in Concordance Table (Appendix 111-19)

TEC-13

CARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: B.Heidenreich

Date: November 17,1989

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1.	4.0 p. 9		x		
2.	4.1 p.9		x		
3.	4.5 p.10		x		
4.	4.7 p.11		x		
5.	5.4 p.13		x		
6.	5.5 p.13		x		
7.	5.6 p.13		x		
8.	5.7 p.14		x		
9.	5.8 p.14		x		
10.	6.2.2. p.16		x		

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: B.Heidenreich

Date: November 17,1989

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Majors	Minor	
11.	6.4 p.27		x		need to provide raw data
12.	6.4 p.27		x		qualitative & quantitative description & evaluation of resource use
13	6.4 p..27		x		relationship between economic activities & aboriginal cultures
14.	6.4 p.28		x		missing data & efforts to obtain such
15.	6.4.2.i p.30		x		
16.	6.4.2.iii p.30		x		
17.	6.4.2.iv p.30		x		
18.	6.4.2.v p.31		x		
19.	6.4.2.vi p.31		x		
20.	6.4.2.vii p.31		x		

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

CARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: B.Heidenreich

Date: November 17,1989

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
21.	6.4.2.viii p.31		x		
22.	6.5. p.31		x		

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 1

Reviewer: B.Heidenreich

Guideline Section # 4.0 p.9

EIS Page(s) (a) Table 3.1(p.3-3); Section 3.1.8.1;3.1.8.2(p.3-31-32)
Section 3.2.8.1;3.2.8.2(p.3-56)
(b) Section 5.5

Nature of Deficiency

" Where particular age and sex groups may be differentially affected by an impact the proponent was to organise its research and analysis accordingly..."

(a) EIS Table 3.1 p.3-3 expected project employment:Sec.3.1.8 Military and Civilian employment...no age and sex groups provided

...similarly for Sections 3.1.8.1. & 3.1.8.2.(p.3-31, 3-32)

Section 3.2.8.1. & 3.2.8.2. (p.3-56)

(b) EIS Section5.5 pp.5-69 to 5-96 .no demographic data provided by communit

Rationale

(a) Estimates of employment profiles that differentiate age and sex permit a more accurate assessment of social and economic implications

p6.

(b) community demographic data required to assist in estimating such social impacts as certain age and sex groups leaving the community for perceived employment opportunities in HV/GB and the impact this would have on the role of women, elders, dietary changes, fuel gatherin etc.

* To be completed for each major defiency listed in Form A

B.Heidenreich
Signature

Nov 21 1989
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 2

Major Defiency No. 2

Reviewer: R.Heidenreich

Guideline Section # 4.1 p.9

EIS Page(s)

Nature of Deficiency

" Proponent must consult all groups"

...no consultations were undertaken with the two native groups most likely to be impacted by the project, CAM and NMIA

Rationale

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 3

Major Defiency No. 3

Reviewer: B.Heidenreich

Guideline Section # 4.5(p.10)

EIS Page(s)

Nature of Deficiency

" It must state impact predictions explicitly and must present the basis on which they are made."

Predictions when undertaken are not explicit

see EIS 6.13(p.6-99) "the project is not defined in sufficient detail to allow accurate projections to be made for all pertinent issues"

EIS 6.17.2.3.(p.6-132)"...both indicators are largely descriptive and neither provides a measure for the type or severit of impact the project could cause."

Rationale

To calculate socio-economic impacts and resource use impacts is the core of the EIS. Primary data collection and sampling should provide the basis for enabling detailed quantitative and qualitative projections to be made.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 4

Major Defiency No. 4

Reviewer: B.Heidenreich

Guideline Section # 4.7 (p.11)

EIS Page(s)

Nature of Deficiency

"Proponent must use data from other areas where low level flight training has been...TFWTCs...studies on the social, cultural and economic impacts of military activities and bases, with special reference to their impacts in isolated and developing areas."

Rationale

This type of analysis has not been undertaken in terms of socio-economic impact on native peoples, yet numerous studies exist. No referencc even to past experience of the Northern communities to the coastal radar sites(Brice-Bennett, 1986)! Yet there is EIS recognition that this is a community concern(Section 6.18.2 p/6-155 USAF and Labrador Linerboard experience)

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EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 5

Major Deficency No. 5

Reviewer: B.Heidenreich

Guideline Section # 5.4 p.13

EIS Page(s) Section 6

Nature of Deficiency

" effect of project....with particular reference to those of the aboriginal peoples."

The focus of the socio-economic impact assessment in the EIS is on HV/GR; there is no explicit assessment of cultural and economic impacts to native people in this area or elsewhere except in the most superficial terms (P.6-156;6-157)

Rationale

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EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B#

Page # 6

Major Defiency No. 6

Reviewer: B.Heidenreich

Guideline Section # 5.5 (p.13)

EIS Page(s) Sec.6.17(pp.126-152)

Nature of Deficiency

" the impacts of the project on renewable-resource-based commercial activities..."

Impacts were not projected(p.6-132);no quantitative data on use; value to community; potential for sustainable development; flippant treatment of tourist potential(Section 6.17.3.1 p. 6-148) ; no data on number of outfitters and their value to the local and regional economy(Sec.6.17.3.3)

Rationale

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21/11/89
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EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 7

Major Defiency No. 7

Reviewer: B.Heidenreich

Guideline Section # 5.7. pp.13-14

EIS Page(s) Sec.6.10; 6-11;6-20;6-22

Nature of Deficiency

" impacts on the natural and human environments of construction activities, operation of TFWTC; termination.."

..superficial assessment not accompanied by concrete data (see. Section 6.10.3(because of long hours...hunting expected to be minimal...impact of construction rated as negligible...")

Sec.6.16.1 to 6.16.14 ...insufficient detail to allow estimation of infrastructure needs and costs)

Rationale

Section 6.22...no detailed assessment of social/economic problems associated with abandonment; no costs provided for maintaining underutilised infrastructure; no costs of demobilization

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 8

Reviewer: B.Heidenreich

Guideline Section # 5.7 (p.14)

EIS Page(s) Sec.6.12

Nature of Deficiency

" cumulative effects of the project..."

cumulative impacts appear to be based on supposition rather than research and analysis. No attempt has been made to relate the impacts identified to the lifestyles and economic activities of the native peoples.

Rationale

* To be completed for each major defiency listed in Form A

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EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B:

Page # 9

Major Deficency No. 9

Reviewer: B.Heidenreich

Guideline Section # 5.8 (p.14)

EIS Page(s) ?

Nature of Deficiency

" impact of the development and operation of land and sea weapons and training ranges."

Civilian access will be restricted in these areas (Sec.3.1.3.5 (Sec.3.2.3.5.) which includes vast tracts(3.2.3.1.Locations and sizes)., NOT YET IDENTIFIED (P.3-42) so that impacts have not been assessed.

Rationale

a To be completed for each major deficency listed in Form A

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Signature

21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 10

Major Defiency No. 10

Reviewer: B.Heidenreich

Guideline Section # 6.2.2. (p.16)

EIS Page(s) 2.2.(p.2.3-2.4)

Nature of Deficiency

' ..the Panel needs to understand the reasons for the project"

It is not clear why the project is needed; how this type of project fits in with Canada's image as a nation striving for peace through dialogue and conciliation rather than armaments.

Rationale

* To be completed for each major defiency listed in Form A

B.Heidenreich
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21/4/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B:

Major Defiency No. 11

Reviewer: B.Heidenreich

Guideline Section # 6.4 (p.27)

EIS Page(s)

Nature of Deficiency

"All pertinent data, including raw data, must be included in the EIS"

No demographic data, social/health data, income statistics, harvest data provided for the coastal communities(Sec.5.5)

No information provided on the data and assumptions used in the input-output model; no indication of any testing to see if the model was valid in this setting; the multipliers used were valid(note that the relationships are based on those prevailing in 1979 (p.6-102). THERE IS INSUFFICIENT INFORMATION SUPPLIED TO ALLOW EVALUATION OF THE METHODOLOGY USED.

Rationale

* To be completed for each major defiency listed in Form A

B.Heidenreich
Signature

21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 12

Major Defiency No. 12

Reviewer: R.Heidenreich

Guideline Section # 6.4 (p.27)

EIS Page(s) 6-17 (p.6-126 to 6-153)

Nature of Deficiency

" A qualitative and quantitative description and evaluation of present and projected resource use..."

Descriptive rather than quantitative (p.6-132) providing a very superficial overview of harvesting activities; no apparent use of Usher (1982) Price-Bennett (1986)

Rationale

* To be completed for each major defiency listed in

R.Heidenreich
Signature

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B:

Major Defiency No. 13

Reviewer: B.Heidenreich

Guideline Section # 6.4 (p.27)

EIS Page(s) 6.17

Nature of Deficiency

" ...attention to the relationship between economic activities and practices of the aboriginal peoples and the survival and viability of their cultures."

The relationship is recognised, (p.6-130)but not paid attention to. The analysis of the impact on the Innu (p.6-156) is insensitive and superficial.

Rationale

a To be completed for each major defiency listed in Form A

B.Heidenreich
Signature

21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 14

Major Defiency No. 14

Reviewer: B.Heidenreich

Guideline Section # 6.4 (p.27-28)

EIS Page(s)

Nature of Deficiency

" Where data is not available....describe efforts to obtain... seek to eliminate data gaps...modelling...implications..reliability discussed..."

Rationale

Missing data for CAM & NWIA and efforts to obtain not discussed; detailed statistics on communities (ie.income data, retail sales data, etc.)not available; source of inputs to the proposed project ie. determination of the extent of the economic leakages should have been analysed;

No indication why surveys and sampling techniques were not utilised to supply missing data elements.

* To be completed for each major defiency listed in Form A

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21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B:

Page # 15

Major Defiency No. 15

Reviewer: B.Heidenreich

Guideline Section # 6.4.2.1.i (p.30)

EIS Page(s)

Nature of Deficiency

" Distribution and characteristics of the human populations..."
...including seasonal variations...employment....municipal services..."

Insufficent data provided for the outlying areas

Rationale

The indirect impacts on these communities could be substantial and insufficient data is provided to assess impacts; the conclusion(6.23.3, p. 6-188)" that daily life in these communities will continue essentially unchanged" cannot be verified given that data provided, yet it is highly unlikely given the past experience with developments at Goose Bay(Brice-Bennett 1988)

P.Heidenreich

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Deficency No. 16

Reviewer: B.Heidenreich

Guideline Section # 6.4.2.iii(p.30)

EIS Page(s)

Nature of Deficiency

" economic.....setting including present and projected revenues without the project...with special reference to community .... subsistence .."

no dollar value provided in terms of country food, wooding...in terms of income equivalent (see Usher, 1982) to native peoples in Central Labrador and the outlying communities

Rationale

* To be completed for each major defiency listed in Form A

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21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 17

Major Deficency No. 17

Reviewer: B.Heidenreich

Guideline Section # 6.4.2.iv(p.30)

EIS Page(s) 5.3 (p.5-11)

Nature of Deficiency

" description of social and economic costs associated with military activities..."

No rigorous analysis of past experience with the military presence in Labrador. A far more complete assessment is to be found in Brice-Bennett(1986) and this Royal Commission Report does not appear to have been reviewed.

Rationale The interviews with residents in HV/GB and the outlying communities had numerous references to concerns based on past experience (ie. centralization of services; racial tensions competition for wildlife etc.)

* To be completed for each major deficency listed in Form A

B Heidenreich
Signature

21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Deficency No. 18

Reviewer: B.Heidenreich

Guideline Section # 6.4.2.v

EIS Page(s)

Nature of Deficiency

" past, present and projected resource use..."

no quantitative data supplied

Rationale

* To be completed for each major deficency listed in Form A

B Heidenreich
Signature

21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 19

Major Deficency No. 19

Reviewer: B.Heidenreich

Guideline Section # 6.4.2.vi (31)

EIS Page(s) p. 5.24

Nature of Deficiency

" past, present and projected commercial aviation..."

Rationale

Air access is the only link for outlying communities to critical social services, fresh fruit and vegetables, etc. No data is provided on existing levels of service, possible disruption of these services by additional activity at HV/GR and the addition of a flight corridor to an off-shore range which bisects the coastal flight path. It is well known that coastal service, although critical to the communities has the lowest priority in terms of Goose Bay facilities and air space.

* To be completed for each major deficency listed in Form A

B Heidenreich
Signature

21/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 20

Reviewer: R.Weidenreich

Guideline Section # 6.4.2.vii (p.31)

EIS Page(s) p.5-40 (?)

Nature of Deficiency

" identification of sites of cultural, spiritual .....
importance to aboriginals..."
Not undertaken.

Rationale

* To be completed for each major defiency listed in Form A

R.Weidenreich
Signature

2/11/89
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 21

Major Deficency No. 21

Reviewer: R.Heidenreich

Guideline Section # 6.4.2.viii(p.31)

EIS Page(s)

Nature of Deficiency

" municipal and regional development and land use plans..."

No evidence that municipal plans other than those for Central Labrador were reviewed

Rationale

Municipal plans and regional plans usually provide a demographic data base for communities, social and economic profiles, community aspirations and a strategy for growth, based on a certain set of assumptions. The impact of the project on these plans is an important element in assessing dislocations that may take place in the outlying communities.

* To be completed for each major deficency listed in Form A

R.Heidenreich
Signature
21/11/89

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 22

Reviewer: R.Weidenreich

Guideline Section # 6.5 p.31

EIS Page(s) 6-100

Nature of Deficiency

" direct and indirect impacts to be provided..."

Rationale

Projections relate to the project only, not to the indirect impacts and induced demand for social services, infrastructure etc. In order to assess the true costs of the project to the community and the government that will be providing the services (in an area where services are expensive and have to be heavily subsidised) impacts beyond direct project costs have to be estimated. This is also important for the residents of the community that have concerns about crime... community size etc.(p.5-66). Data of this nature is also critical for assessing the impact of abandonment.

* To be completed for each major defiency listed in Form A

R.Weidenreich
Signature

21/11/89
Date

END

TEC-13A

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Page # 27

Major Deficency No. 27

Reviewer: B.Weidenreich, S.Hazell

Guideline Section # 5.9

EIS Page(s) pp.2-9 to 2-13

Nature of Deficiency

" ..effects of the project on aboriginal and treaty rights..."

Fails to recognise aboriginal non-treaty rights;

Misstates s.35 of the Constitution Act which recognises and affirms existing aboriginal as well as treaty rights;

No discussion of legally and constitutionally entrenched aboriginal rights of the Labrador Innu;

Important Canadian case law on aboriginal rights is omitted entirely.

Rationale

Canadian courts and the Canadian constitution recognises aboriginal rights, especially for aboriginal peoples that have not signed treaties (comprehensive claims). See:

Baker Lake v. Minister of Indian & Northern Affai

Calder v. A. G. British Columbia

* To be completed for each major deficency listed in Form A

B Weidenreich
Signature

Nov 27 1989
Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

TEC-14

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: David M. Bird

Date: Nov. 21, 1989

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1		4-55		X	Rosenau et al. 1981 missing from ref. list
2		4-60		X	population sizes based on fairly old data with heavy emphasis on Goudie and Whirman 1987
3		4-61		X	little or no information on spring migration routes for waterfowl admitted
4		4-65		X	little information on loon densities admitted
5		6-52		X	detailed information on distribution of nesting raptors lacking
6		6-53		X	little information on how noise disturbance affects reprod. success and popn levels, both short and long
7		6-54		X	sensitivity of raptors to aircraft noise and visual stimuli poorly known
8		6-59		X	as in No. 7, same for seabirds
9		6-75		X	no information on impact of chaff accumulation
10		6-97		X	no information on impact of increased deposition or mobilization of heavy metals resulting from LRTAP and jet exhaust emissions

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

Additional Comments to the Panel

I have listed ten (10) minor deficiencies on the preceding page as requested. In most, if not all cases, DND has admitted to the lack of information. This, of course, does not exonerate them from providing the data. As far as I am concerned, it only weakens their case for the two components in the EIS and those scrutinizing their arguments in the public inquiries will certainly not overlook them. The EIS relies heavily on data from other past studies which may have little applicability. If I insisted on the provision of the information, this would serve to hold up the proceedings for at least another eight months, simply because the data are not currently available. New studies would have to be performed, etc.

Other questions that are not covered in the EIS include:

1) What is the water quality of bodies of fresh and brackish water that have not been overflown, i.e. for the sake of comparison with overflown lakes, rivers, etc.?

2) What is the reproductive success of each of the avian species mentioned in the EIS (only population figures are given)? It will be difficult to guage the impact of the training centre in future years without these data.

3) Which species, if severely reduced in population size, might impact on other wildlife species, avian or otherwise?

TEC -15

Coastal Associates & Consultants Ltd.
Viking Building, 136 Crosbie Road, Suite 403, P. O. Box 13531, Stn. 'A', St. John's, Newfoundland, Canada A1B 4B8
Telephone (709) 726-9351 726-8802 Facsimile (709) 726-1627 Telex: 016-3190 CO ASSOC SNF

November 21, 1989 VIA FAX

Dr. Hussein Sadar, Chairman
EIS Review Coordinating Committee
Federal Environmental Assessment Review Office
13th Floor, Fontaine Bldg.
Hull, Quebec
K1A 0H3

Dear Dr. Sadar,

Re: Review of EIS for identification of Major Deficiencies

1 Further to your letter of November 9, 1989, following are my comments on the EIS as requested.

2 Plans and opportunities for economic development in the project area - Information gaps cited on Page 5-8 are not totally valid. While data is not readily available, it can be obtained, especially related to social and public health data. Employment data could have been obtained related to the base. — where? #143.

3 A review of the literature cited in Chapter 5 indicates that the proponent was aware of some of the pertinent literature but chose to ignore the documentation related to the Human Environment in the study area. This documentation is available at the Labrador Institute of Northern Studies. Some of the literature referred to in the [redacted] cited is not referenced nor considered in any [redacted] written text. Section 5.5 does not make reference to either Mud Lake nor Sheshatshit, both of which depend on the land for a significant part of their livelihood. North West River was also not included in this section. This significance of wildlife harvesting is not limited to only the outlying areas as stated in the report. The impact on the social and economic well being of the residents and of the hunters and trappers of North West River, Sheshatshit and Mud Lake should be noted. — MB #154. — see pg 5-62? Sec 5.4.13 — relates to Ang.

re. #154 * Ignored important existing information sources on the human environment

4 Section 5.3.3 dealing with physica and psychological heath fails to address some of the health needs, such as sexually transmitted diseases, alcohol abuse (particularly among young women), family violence and breakdown as it relates to increased pressure from alarge influx of unattached males, or social and emotional health related to the imbalance of the population. There are only sketchy observations made in 6.16.12* The sections do not adequately describe the requirement of the guidelines 6.4.2.11 in Appendix II. #155 No info given on current status * this relates to facilities + social services.

5 In section 5.4.5 the employment structure is dealt with in a very cursory way. There are capsule glimpses of business and commercial activity but no trend analysis. #156

6 Table 5.34 summarizes a number of concerns. The answers to several of these concerns was clearly a mandate of the EIS, as delineated in the guidelines, but were not adequately addressed. How many jobs and what type? Civilian versus military employment, type of training needs, type of construction, who will suffer most of the negative impacts. #73, 74 #179 77, 78, 82 168, 169, 170

7 The Guidelines specifically say the cumulative impacts of the project and other development projects in the area are to be assessed (5.7, and 6.2.3). The EIS fails to look at the public health, labour force requirement, and other social problems in the Goose Bay region that might occur if, for example, the NATO base were to be built at the same time as the Lower Churchill hydro project. The EIS needs to address this question more thoroughly. 184 26

8 There is little qualification of resource use except in very broad terms. No attempt has been made to put cash value on subsistence activity and very little comment has been made of the impacts related to altered resource use. The section describes the human element related to activities in the proposed sea range. Section 6.4.2 III, VI (Appendix II) have not been adequately addressed in the written document. With regard to employment patterns number XVII (Appendix II, P21) of the guidelines was not addressed. The description of projected employment opportunities (Section 6.14.6 P-6:III) is also very sketchy with examples of types of jobs rather that an estimate of the range of employment opportunities. No references are made to how the educational system needs to change, especially in the technical educational sectors, in order to provide the training required to provide local people with the necessary skills to participate in the wage economy in Happy Valley/Goose Bay. 140, 141 156 178, 169 196

9 Mention is made of the validity of the Inter-Provincial input/output model for use for military based activities. No consideration appears to have been made related to inputs from other countries related to military based construction or other infrastructure. The implications of this for the Newfoundland based construction industry was not addressed and more realistic projections should be proposed.

10 Prior to the public hearings, it is recommended that the employment section of the EIS be rewritten to address more precisely the data requested in the guidelines. This addition would provide the basis for assessing the additional training needs that must be addressed if the Indigenous Population will be able to take advantage of any civilian job opportunities.

11 No attempt was made to quantify either current social service needs or projected needs for better component 1 or 2. 154, *

12 For component 2, segments of the guidelines detailed in Appendix II were not clearly addressed. These include section 6.3.2.2 III, IX. 86, 96

13 With regard to distribution of people, no attempt was made to include CAM or NMIA Communities. As much of the military activity is in areas traditionally exploited by these population groups, the use of secondary sources of information that is available from key informants and in specialized libraries should have been used to provide an overview. To ignore the information already available is an oversight that may only exaggerate already obtained race relations. 143, 145

14 Wilderness Tourism is a lucrative economic activity that residents from remote communities can be involved in, they can also market their skills as guards, etc. The comments in section 6.17.3.1 do not address the loss of potential income, etc., and are flippant in nature. 180, 159

15 In terms of lessening the effects on the Indigenous population, no suggestions or recommendations have been made to limit the access of transients or newcomers to traditional resource harvests (See 6.18). 197

16 There was little integration of the data related to wildlife and sea resources with the human environment. Impacts were essentially dealt with in isolation with little attempt made to quantify impacts. Failure to do so tends to minimize the importance of some of the negative impacts. 139, 140, 141

17 In reading the EIS, one gets the impression that subsistence of much of the report was edited out, leaving only cursory glimpses and generalized comments which fail to address the spirit or the letter of the guidelines sufficiently to be able to assess the impacts related to the social and economic considerations in a meaningful way.

18 It is my recommendation that many of the sections identified in this letter be restructured to be more in keeping with the intent of the guidelines provided to the proponent prior to the beginning of public hearings.

Respectfully submitted,

for George E. Lee
President

/ijf

Dictated by Mr. Lee and
signed in his absence.

MACKEY.

997-3215

DRC
TEC 16

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November 21, 1989 VIA FAX

Dr. Hussein Sadar, Chairman
EIS Review Coordinating Committee
Federal Environmental Assessment Review Office
13th Floor, Fontaine Bldg.
Hull, Quebec
K1A 0H3

Dear Dr. Sadar,

Re: Goose Bay EIS

Greetings from Lusaka, Zambia.

1 The Environmental Impact Study (EIS), as submitted, has many serious flaws when compared to the guidelines for the preparation of the EIS. These flaws are outlined here.

2 Overall very few impact scenarios are presented anywhere in the text. This is particularly true in sections related to the human environment, and in sections related to wildlife disturbances.

3 The proponent has identified a set of valued ecosystems but has not seriously attempted to ascertain fundamental cultural values placed on the various components of the ecosystem, even though these are well documented in anthropological papers, land claim documents, occasional papers, and copies of reports and research, that are housed in the Labrador Institute of Northern Studies in Goose Bay and in the Hochelaga Institute in Montreal. As well, there are a number of secondary informants that could have clarified the fundamental cultural values. These values were not even clearly outlined for either the Innu, the Inuit or the settlers. No attempt was made to present a series of analyses based on the different values that were identified. There are no impact scenarios presented that relate to the impact of lack of access either to land or to traditional hunting and trapping grounds or to the alteration of wildlife patterns because of the use of the land and airspace for military activities. 1, 2, 195 / 14 / 8 / 15, 6, 7 / 15, 5, 7

The checklist showing the ecosystem components that are not expected to be impacted but not sufficiently valued to be studied, and ecosystem components that are expected to be

4 impacted and that are sufficiently valued to be studied, is not given in one place in the EIS. There seems to be a very narrow interpretation of ecosystem.

5 Clearly expressed hypotheses that can be tested are not stated. It is also important to note that in order to assess the impact, alternate proposed site locations need to be identified, otherwise all comments are rhetoric only (see 7.3).

6 In the sections on the Human Environment, there was little discussion on the impact of the project on the relevant cultures and economies in relation to the project. Societies and cultures that will be impacted upon most severely were almost ignored, both in terms of sampling techniques for those who agreed to cooperate and the unpublished and published literature, as well as the use of key secondary informants for those groups that did not actively participate. The section on populations in the study area almost ignored the hunters and gatherers. No comments are made about the overall effect of interfering with one or more of their activities, even though it is recognized that there are large parts of various communities who live on a subsistence economy.

7 The section on plans and opportunities for economic development in the project area was poorly done. There is no definitive data nor are there scenario projections related to gain/loss of employment opportunities either on the base or in spin off activities. These spin off activities are not presented nor is there any attempt to identify the types of employment that might be available and the training needs of the people who live in the project area if they were to have the opportunity of any economic benefit from the project. (Section 3.1.8.2 does not fulfil the requirements stated in the guidelines for the EIS. No attempt was made to document past employment patterns.)

8 The section on noise was also poorly written. It is difficult to assess whether the consultants for the proponent did not do a thorough search of the literature or whether the editing was such that very important considerations about the noise factor were left out. There are a series of very pertinent studies that have been conducted in West Germany which show that the effects of noise are more severe on certain age groups within a population. In this section there is also reference made to specific literature but that literature is not cited in the list of literature used.

examples needed.

9 With reference to the lists of literature cited at the ends of each of the chapters, it is apparent from the text that the important components of some of this literature have either been ignored or removed from the final text.

10 With regard to the health aspects of the project, only superficial assessment has been made. The suggestion is made that there be a new regional hospital (at what cost to the Government of Newfoundland) and that the conversion of the present hospital to a medical facility for base personnel is envisaged. Does this make either economic or medical sense? Does the population warrant two facilities or would both communities be better served by one (3.1.7.2)?

11 Under Health Concerns, there was no mention of family breakdown as a possible result of influx of so many unattached men. Alcohol abuse is already reported to be a major side effect, particularly for women who are picked up by men for their use and abuse (Personnel Communication). No attempt has been made to look at the epidemiology of sexually transmitted diseases in the area and the impact of large numbers of sexually active transients into the area. In other words, there was no mention of Aids even though it is well known that the transmission of Aids by military personnel from military bases around the world is a serious and life threatening epidemiological problem. These scenarios can be projected from existing epidemiological data. The Grenfell Regional Health Service keeps excellent records of all health related matters. No attempt was made to identify either the physical or social health implications of further restricting access to the 'country' by the Innu of either Davis Inlet or Sheshatshit, even though there have been papers written and there are authorities in the field, such as Peter Starfield at the University of Manitoba Northern Medical Unit. Mention has been made of the need for a social worker for the base but no mention has been made of the need for additional social service personnel for the community(ies) to assist local residents to cope with the influx of transient military personnel and the inevitable fallout of increased unwanted pregnancies, venereal disease, and strained relationships.

12 The technical report on the sea range ignores the data collected for Petro Canada's Impact Assessment of the same area. This section was poorly done with the exception of fishing boat activity. This section should incorporate the data available from Petro Canada Research.

13 The report fails to give specific locations of weapons ranges, and supersonic flying areas. While the Guidelines do accept the fact that Component 2 (the NATO base) is largely a concept, rather than a finalized proposal, it is impossible to pass judgement as to whether the project is ecologically sound, as the EIS only states, in effect, that the selection of weapons ranges and supersonic flying areas will be made taking all factors into account. Such an approach, essentially asking that the project be accepted on trust, can hardly be expected to overcome the profound mistrust already existing between the military and those in Labrador who are opposed to the project. 22

14 Given the long delays since the EIS was originally due, it is not unreasonable to expect that the Department of Defence (DND) should now be ready to make specific proposals regarding the locations of these ranges, locations which can then be assessed as part of the present EIS. If it could then be shown that the location and size of the ranges were such that they do not actually pose a threat to wildlife, Native hunters, or other users of the region, this might go some way to bridging the divisions that have emerged in Labrador society over the issue of low level flying and the NATO base.

15 Without more specific details on what the impact of the NATO base will be on particular regions and particular groups, the EIS is unable to pass judgement on the environmental implications of Component 2, one way or the other, and it would be preferable to separate it from the assessment process until it is in a more detailed and specific proposal.

16 On the viability of Native Economies and Native Cultures, the Guidelines (p.27, 6.4) state that the study of resource use patterns must give particular attention to the relationship between this form of economy and the survival and viability of Native peoples and their cultures. The EIS does not adequately deal with this question. 140 141

17 In the area of Long-term Dynamism of the Ecosystem, the Guidelines ask that the dynamic aspect of the ecosystem be taken into account in the EIS's description of the environment of the region. Moreover, the ecosystem is taken to include both the natural and human populations. The EIS does not adopt this approach as it might have. It has implications, for example, for assessing the significance of land use patterns. In selecting a weapons range, the recent distribution of hunters and other land users might be looked at. However, a longer term view could reveal that an area had been used at one time, but due to a 10 139, 1,

forest fire, or some other ecological change, it was avoided for several years. But this does not mean that the area has been permanently abandoned. The dynamism of the ecosystem means that gradually game, and later human land users, will return. However, the more short-term approach to land use adopted by the EIS, while it may show the pattern of land use that is current, does not take account of the dynamic, and the long-term movements of human land use that go along with this dynamic. Although the computer plotting system described in the EIS can reflect changes in land use, as more and more fixed technological aspects of the project are put in place, the human land users will find themselves increasingly unable to respond to the dynamics of the ecosystem. As it is, the EIS has failed to take up the instruction in the Guidelines to adopt a long-term, dynamic view of the ecosystem.

17

10
139

Under predictions of impact and testable hypotheses, the Guidelines state that impact predictions must be explicitly stated, and testable hypotheses formulated (4.0). None of this has been done adequately with regard to the impacts on Native cultures. The Guidelines specifically require that social and cultural, as well as economic, impacts are expected to be dealt with thoroughly (4.0). This is dealt with in the EIS in only a vague and general way, such that it is never possible to question whether the hypothesized impacts can be modified by alteration to the proposal, or other mitigative measures.

18

6

(1)

Under Archaeological and Historical Sites, the Guidelines state that:

> The EIS must describe the ...sites or areas of particular cultural, spiritual, or other importance to the aboriginal or other occupants, and other areas of special status, such as ...areas of archaeological significance. Archaeological surveys must be conducted in the vicinity of the weapons ranges and on the site reserved for the expansion of the Goose Bay Airport, and in any other areas where the Project could affect archaeological sites and where such surveys have not already been carried out. (6.4.2.).

19

163
164

20 Elsewhere, the Guidelines state that valued ecosystem components must be identified, and that the EIS must indicate which ones will be impacted. Presumably, prehistoric and historic sites constitute valued ecosystem components. The EIS fails to satisfy the above requirements.

Respectfully submitted,

for Mary Alton Mackey

/ljf

Dictated by Dr. Mackey and
signed in her absence.

MSRL

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November 23, 1989

Dr. M.H. Sadar, Chairman
EIS Review Coordinating Committee
Federal Environmental Assessment Review Office
13th Floor, Fontaine Building
Hull, Quebec
K1A 0H3

Dear Dr. Sadar:

My sincere apologies to you and the committee for taking so long in getting this material to you. I felt it imperative to carefully review as much of the documents as possible within the time constrains allotted.

The accompanying forms detail seven major deficiencies that I found with the EIS. They are:

1) Lack of consideration of species of ecological value that have no apparent economic value.

2) Absence of information about the potential locations of weapons and heavy use sites.

3) Failure to use experimental designs to directly test possible causal effects of low level flying.

4) Leaving the reporting of off-path stray flights to the public. This is a DND responsibility, most particularly in situations in which strays might be made over wildlife and not witnessed by nonmilitary personnal.

5) The total absence of waterfowl data. Interpretations are presented without presenting data. This is a scientifically invalid procedure.

6) The lack of ecosystem system studies that integrate rather than separate taxa. Riparian habitats that are intensively used by low flying aircraft and that also concentrate

birds, mammals, and fish need experimental study. There are no habitat maps in the EIS!

7) Fundamental research is the primary means for gaining environmental understanding. Basic research must be a major component of proposed mitigative schemes. It is not.

On the basis these major deficits, I recommend that the EIS not go ahead for public review until the problems are adequately dealt with.

Yours sincerely,

W.A. Montevecchi, Ph.D.
Professor
Biology and Psychology

encl.

REVIEW OF ... IN LABRADOR AND QUEBEC

FORM A (LIST OF ALL DEFIENCIES)

Reviewer: W. A. Montevecchi

Date: 22 November 1989

Defiency No.	Panel Guide-lines Section	EIS Page(s)	Nature of Defiency		Additional Remarks (if any)
			Major*	Minor	
1	4.1.	entire document	X		
2	4.2, 4.5, 5.6.b., 5.8, 6.3.3.x. 6.4.1.4., 6.5	3-13 3-14,3-39 section 3.2.3,4-41	X		
3	4.3, 5.2.b., 6.4.	entire document	X		
4	4.2, 4.5,	3-15, 3-19,3-45, 5-56	X		
5	4.2., 4.5., 6.3.3.x., 6.4., 6.4.1.4	6-50, 6-51	X		
6	4.6, 6.4	3-6,Tech. Rep.4B-12 17,entire document	X		
7	4.7., 5.2.b., 5.7., 5.10., 6.3.3.x., 6.5.	Chap. 7	X		

* - Please complete one page (Form B) for every major deficiency.
- The definiton of major defiency is given in the covering letter.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 1

Reviewer: W. A. Montevecchi

Guideline Section # 4.1

EIS Page(s) Entire document

Nature of Deficiency

The selection of Valued Ecosystems Components in this EIS has been entirely based on economic criteria. This is inappropriate for an environmental assessment process. Such a process must consider ecological value. It appears that the term value has been misconstrued to its economic meaning solely. By considering wildlife only in economic terms, some significant and valued ecosystem components, such as passerine birds, are completely ignored.

Rationale

Birds are most visible, wide-ranging and easily studied components of terrestrial ecosystems. Birds are also vulnerable to perturbation and degratation, as such they are excellent bio-indicators of environmental conditions. Passerine (small perching, singing) birds could be used as natural assayers of the effects of low level flying and other impacts associated with a Tactical Fighter (see attached sheet)

W.A. Montevecchi
Signature

22 November 1989
Date

* To be completed for each major defiency listed in Form A

Rationale #1

Weapons Training Centre. As low level flights are just above the tree tops, it is a major deficiency in the EIS that no research was directed at these animals. These birds could serve as easily monitored, wide-spread bio-indicators in the terrestrial ecosystem being considered. The absence of studies of these animals is particularly inappropriate because of their 1) dependency on song (and hence hearing) for successful reproduction, 2) small size and delicate physiology, and 3) because they could prove to the vertebrates most affected by low level flying.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Deficency No. 2

Reviewer: W. A. Montevecchi

Guideline Section # 4.2., 4.5, 5.6.b., 5.8., 6.3.3.x., 6.4.1.4., 6.5.

EIS Page(s) 3-13, 3-14, 3-39, 3-49, section 3.2.3., 4-41

Nature of Deficiency

The EIS indicates that six unmanned Practise Target Areas, three unmanned Live Weapons Ranges, one manned Academic Range, and an Air Combat Manoeurving Instrumentation Range are planned. These sites are the ones that will be most directly and drastically disturbed, if the Tactical Fighter Weapons Training Centre were to go ahead. These proposed sites involve a significant area of land, yet the potential location of only one terrestrial site is given. It is impossible to make any assessments whatsoever of the possible impacts of these potential disturbances without site information.

Rationale

The EIS is inadequate by all conceivable standards of assesament to attempt to evaluate the impacts of these weapon and heavy use sites by not even attempting to indicate potential site location. Such lack of information is particularly inappropriate in view of the many mitigative constraints (7.5.4.) on potential locations of weapon and heavy use sites. It would have been (see attached sheet)

W.A. Montevecchi
Signature

22 November 1989
Date

* To be completed for each major deficency listed in Form A

Rationale #2 (cont.)

a much more scientifically sound approach for DND to make an effort to indicate potential sites, so that these could be rigorously assessed. To have not done this is inadequate and begs the question of meaningful scientific assessment. On page 3-49, DND makes note of the absence of "site-specific information" on land use by native people, yet with regard to the weapons and heavy use sites presents virtually none themselves.

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 3

Reviewer: W. A. Montevecchi

Guideline Section # 4.3., 5.2.b., 6.4.

EIS Page(s) Entire document

Nature of Deficiency

The most straight-forward and meaningful way to attempt to make any inferences about causal relationships is to pose a testable hypothesis and to logically test it. There was more than ample opportunity, and there was (and still is) a tremendous need to test simple hypotheses about the possible effects of low level flying on wildlife. This was not done in any meaningful way in the EIS. Instead, a methodologically vague and quasi-scientific approach is adopted. The overall result is speculation rather than inference. The absence of rigorous hypothesis testing of basic (see attached sheet)

Rationale

The experimental testing of rejectable hypotheses is the basis of scientific investigation. Such investigation could have been easily carried out to test the effects of low and high frequencies of low level flying on wildlife responses. A particularly useful design could involve a fly-over and a control area in similar habitats during one breeding season and the reversing the fly-over (see attached sheet)

W.A. Montevecchi
Signature

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* To be completed for each major defiency listed in Form A

Nature of Deficiency #3 (cont.)

and simple questions about the effects of low level flying on wildlife is inadequate.

Rationale #3 (cont.)

and control manipulations of plots during the subsequent breeding (staging, etc.) season. Such a design would permit straight forward inferences about the potential causal effects of low level flying on different wildlife patterns and potential carry over effects. Such designs were not meaningfully attempted in the EIS, though they could and should have been. A better experimental design could have used three experimental plots (control, low frequency and high frequency of low level fly-overs). Adequate EIS require adequate scientific design. The experimental design of the present EIS is inadequate.

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 4

Reviewer: W. A. Montevecchi

Guideline Section # 4.2., 4.5.

EIS Page(s) 3-15, 3-19, 3-45, 5-56

Nature of Deficiency

It is not adequate for DND to rely on public reports of jets straying from designated flight paths. This tactic completely shifts the responsibility of flight path violations and errors from DND to those being overflown. More importantly, this strategy provides no mechanism for reports of off path flycovers of wildlife that are not witnessed by by humans on the ground. Such records are crucial in the possible event that wildlife stress or mortality results (see attached sheet)

Rationale

Should low level flying continue and possibly expand in Labrador, it is the responsibility of DND to monitor off path flights. To put this responsibility on a sparse human population shifts this responsibility from DND to the public being violated. Moreover, records of stray flights must be kept particularly in those instances where there are no nonmilitary (see attached sheet)

W.A. Montevecchi

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Nature of Deficiency #4

but is not documented until a later time. Records of stray flights would aid in determining factors involved in potential wildlife impacts. To not adopt a strategy of self monitoring of stray flights seems irresponsible.

Rationale #4

witnesses, because of potential stress of mortality that may be inflicted on wildlife but only discovered later. Also with respect to DND responsibilities, if DND can waive the 2000 ft flight ceiling, what real environmental protection exists with this type of loop hole?

EARP REVIEW OF MILITARY FLYING ACTIVITIES
IN LABRADOR AND QUEBEC

FORM B:

Page # 1

Major Deficency No. 5

Reviewer: W. A. Montevecchi

Guideline Section # 4.2., 4.5., 5.6.b., 5.8., 6.3.3.x., 6.4.1.4., 6.5.

EIS Page(s) 6-50, 6-51

Nature of Deficiency

To present interpretations about unpresented data sets is scientifically invalid. To further speculate about potential impacts is ludicrous. The waterfowl data collected by the Canadian Wildlife Service prior to 1987 and that collected by S. Fudge and Associates in 1987 must be presented, so that the interpretations presented in the EIS can be independently assessed by scientific reviewers and the general public.

Rationale

Scientific integrity depends on data presentation. With respect to waterfowl considerations, the data on which the interpretations in the EIS are based are not presented. Other readers may interpret the data differently. In the absence of data, meaningful considerations are impossible. Of all the wildlife considered in the EIS, staging and moulting flocks of black ducks maybe the most sensitive (see attached sheet)

W. A. Montevecchi
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a To be completed for each major deficency listed in Form A

Rationale #5

valued ecosystem component to noise associated with low level flying. These data are critical and must be presented before the EIS can go ahead for public review. In their absence, public review is impossible.

FORM B*

Page # 1

Major Deficency No. 6

Reviewer: W. A. Montevecchi

Guideline Section # 4.6., 6.4.

EIS Page(s) Entire document, 3-6, Tech. Rep. 4B-12, 17,

Nature of Deficiency

As a consequence of partitioning Valued Ecosystem Components by taxa, some major deficits in ecosystem considerations developed. One that stands out is the failure to consider riparian habitats and failure to conduct experimental studies with controls of the effects of low level flying on these very productive and heavily used habitats. As the rivers systems and valleys are intensively used by low flying military aircraft this is a deficit of major proportions.

Rationale

As low level flights tend to follow rivers during training exercises and as these riparian habitats are prime habitat for waterfowl, passerines, moose, lynx, fish, etc., reparion habitat is most probably the most important habitat to study with regard to low level flying. Moreover, owing to the extensive use of river ways by low flying air craft, it would have (see attached sheet)

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Rationale #6

been (and would be) easy to conduct an experimental study of the effects of low level flying on the riparian ecosystem and its associated animal community. Such a study would also integrate many separate taxa that are otherwise simply considered in isolation. This type of ecosystem consideration is lacking throughout the entire document. No where in the document is there a habitat map of Labrador or of the proposed sites of tactical fighter training. Such habitat information needs to be included in the EIS.

IN LABRADOR AND QUEBEC

FORM B*

Major Defiency No. 7

Reviewer: W. A. Montevecchi

Guideline Section # 4.7., 5.2.b., 5.7., 5.10, 6.3.3.x., 6.5.

EIS Page(s) Chapter 7

Nature of Deficiency

Basic biological and ecological research is the fundamental means of gaining environmental understanding. Such fundamental research has to be included in mitigative strategies to protect the environment. At present it is not. It should be.

Rationale

Basic research into biological and ecological processes is required to advance understanding of environmental conditions. A mitigative program committed to environmental protection would put aside a propotion of its annual budget for fundamental research. Such commitments should continue for longer than the duration of the project.

* To be completed for each major defiency listed in Form A

W.A. Montevecchi
Signature

22 November 1989
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TEC -18

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 1

Reviewer : D. Cressman

Guideline Section # 4.0 (1) pg. 9

EIS Page(s) p. 4-23 (sec 4.9)

Nature of Deficiency

Check list of ecosystem components in Table 4.6 (pg 4-23) omits components of the physical environment (soil, air, water) or communities of interrelated species (eg. predator-prey groups).

No rationale is provided for limiting the definitions of ecosystem components to species.

Rationale

The focus on individual species results in a fragmented analysis offering limited attention to linkages (eg. soil/water/plant/ predator/prey) or to vulnerable systems (permafrost).

* To be completed for each major deficiency listed in Form A.

Signature

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 2

Reviewer : D. Cressman

Guideline Section # 4.0(1) pg 9 and 4.0(4) pg 10

EIS Page(s) 6-2, 6-3, 4-22 to 4-25 (also 5-4, 5-5 section 9.2.2

Nature of Deficiency

The treatment of valued ecosystem components (identification, explanation, justification, assessing significance of change) is not applied to the human environment.

Rationale

The EIS seems to focus on issues (pg 5-4, 5-5 and 6.3) as a framework for the socio-economic impact analysis. But there is no explicit discussion of the relationship between issues and VEC's nor is the redefinition of issues between chapters 5 and 6 explained or justified. One consequence is that native concerns seem to be subsumed under more general issues.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 3

Reviewer : D. Cressman

Guideline Section # 4.0 (4) p. 10

EIS Page(s) p. 4.9

Nature of Deficiency

Public consultations are not used in defining how the significance of impacts is to be determined (the concordance EIS references is the plans for consultation re: mitigation and monitoring). Where significance of "impacts is consistently assigned (biophysical, sections 6.4 to 6.11) technical definitions of criteria are provided without reference to community values. Elsewhere, analyses of significance are not systematically provided but critical assumption about value, such as are provided in classifying the importance of resource uses (p. 6-131) are not referenced back to identified community values.

Rationale

The reason for rating the significance of impacts is to relate predicted impact levels to values of impacted communities in order to develop an appreciation of law those communities are affected. The technical judgement of the analyst, exercised without reference to community inputs, may not provide the review panel with an accurate assessment of the significance or acceptability of predicted impacts. Examples from the EIS that illustrate this point include:

- small game (rabbits, snowshoe hare, ptarmigan goose) are not identified on a VEC despite documented levels of small game harvest (pg 4-54, 5B-1 to 5B-8, 6-131);

- high risk/low probability events (airplane crash, forest fire, acute microwave exposure, acute noise exposure, weapons accident) are generally not identified as having significant impacts suggesting that considerable weight is assigned to the

dimension of probability. However, community issues clearly include concerns related to such events (App. 5B, pg 6-2).

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 4

Reviewer : D. Cressman

Guideline Section # 4.0 (1) p. 9, 4.0 (3) p. 10, 4.0 (4) p. 10

EIS Page(s) Section 6

Nature of Deficiency

There is no overall conceptual model developed as a guide in formulating specific approaches to impact evaluation. In particular: a clear differentiation is not made between project effects or changes in VEC's and the significance of these effects or changes. Characterization of the project effect is a descriptive task requiring preparation of information on the various dimensions of impacts and effects (e.g. duration, number of affected individuals, frequency of effect, extent or magnitude of effect, nature of effect on individuals or their activities, etc.). Assessing the significance of project effects requires that effects be evaluated relative to explicit values held by the local community and the larger Canadian community. Values that bear on the assessment of significance may be expressed as community issues, concerns and aspirations or they may be institutionalized in the form of government policies, regulations and standards (e.g. noise, water/air quality and safety standards, endangered species policies, local/provincial development approval requirements).

The significance of biological impacts is inferred from an assessment of the magnitude of the impacts without an explanation of the rationale for their approach. It is not, therefore, clear what values are being invoked in the determination of significance.

Values are explicitly referenced in identifying VEC's (Figure 4.8, pg 4-24). This step is essentially a screening process to determine which components are in and which are out. In this regard, it is just as important to explain why certain components are out as to explain why others are in. This explanation should be couched in terms of a clearly defined screening criteria so that judgements of the analyst can be understood and scrutinized. In the EIS, however, there are no reasons given for dropping certain ecosystem components such as small game animals (rabbits, ptarmigan, etc.) and animals (mice, voles) that are the prey of other animals that are considered to be VEC's (Fox, Martin).

The analysses of Socio-Economic health and safety impacts do not commence with a systematic enumeration of VEC's nor is there a framework established for characterizing impacts on a scale from negligible to major. A variety of pertinent issues are addressed in turn discussions which are primarily descriptive in nature; direct statements regarding the significance of effects are not offered though there are statements such as:

- "there would be a serious threat to residents, hearing" (p. 6-172).

- "increased pressure on the resource base due to harvesting activities of transients and immigrants would likely affect the viability of subsistence activities" (in Shesbatshit) (p. 6-156).

Such impacts are not, however, described as being "major" within the context of a pre-determined impact rating scheme.

Rationale

The principal merit of an explicit and consistently applied method for evaluating the significance of impacts in terms of held community values is that it would help the review panel to formulate an opinion concerning the acceptability of impacts.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 5

Reviewer : D. Cressman

Guideline Section # 4.0(4) pg 10

EIS Page(s) p. 6.3

Nature of Deficiency

No method is described for assessing the significance of socio-economic impacts and the terms "major", "moderate", etc. are not applied as was done for valued ecosystem components.

Rationale

In the absence of an explicit framework for evaluation of socio-economic impacts, any statements regarding the significance of impacts cannot be understood in terms of underlying assumptions that are made. It is not clear what weight assigned to factors such as probability of occurrence, number of people affected, morbidity/mortality, etc.; this affects the clarity of the impact assessment and makes it difficult to evaluate its consistency.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"s

Major Deficiency No. 6

Reviewer : D. Cressman

Guideline Section # 5.0 (1) p. 13, 6.2.3., p. 17

EIS Page(s) 6.16.14

Nature of Deficiency

A number of standard negative economic impacts are overlooked or addressed inadequately. The EIS only deals with infrastructure, urban land use and coordination problems arising from rapid development in Goose Bay - Happy Valley.

Potential adverse economic impacts also include:

- rapid price inflation due to excess demand for housing, labour, construction materials, and possibly even consumer goods;

- diminished purchasing power of households not able to exploit new employment opportunities but exposed to higher prices - principally nature households (a brief discussion on pg 6-160, Section 6.18.3 alludes to this problem);

- loss of income and employment arising from the potential displacement of current economic activities - in particular losses related to the cessastion of toursim activity and any decline in productivity of commerciala harvest activity (trapping, caribou hunt in Nain) due to impacts on fauna/flora;

- foregone opportunities for resource-based development (minerals, tourism, forestry) that may not be compatible with low level flight training;

- depreciation of the subsistence economy that supports the majority of natives in the study area;

- total project costs (direct project costs, infrastructure costs, institutional costs) are not provided and the evidence of these costs is not evaluated (i.e. federal, provincial, local and private sector).

Rationale

The review panel requires a full accounting of all costs and benefits in order to formuate an opinion on the overall merit of the proposed undertaking.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 7

Reviewer : D. Cressman

Guideline Section # 5.0 (4), p. 13; 5.0 (9), p. 14

EIS Page(s) Sections 6.17.2

Nature of Deficiency

Principles of JBNQA are discussed but not effectively incorporated into the analysis of native issues. JBNQA provisions are dismissed on the grounds that they "do not assure the continued supply of particular species or of particular quantities or qualities of fauna nor their availability for harvesting..." (pg 2-13).

Rationale

The EIS effectively suggests that terms of the JBNQA do not apply but provide no substantiation of their claim, for instance, by reference to the recorded minutes of the JBNQA negotiations. It is likely that other opinions exist regarding the relevance of the JBNQA.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 8

Reviewer : D. Cressman

Guideline Section # 5.0(7)

EIS Page(s) p. 6-93 to 6-98, sec. 6.12

Nature of Deficiency

The cumulative impact work is incomplete. Examples of omissions include :

- combined effect of growing income disparity, racial tension, project induced health problems, and a deteriorating natural resource base (due to noise impacts, increased harvest pressure) on the cohesion and long term viability of Central Labrador native communities and cultures.

- combined effect of increased harvest pressure and noise disturbance on affected populations of caribou, moose, etc.

Rationale

Rather than addressing the linkages among identified impacts, the analysis focuses on a series of cumulative impact issues identified in one reference and accordingly fails to recognize project specific cumulative impacts.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 9

Reviewer : D. Cressman

Guideline Section # 5.0 (9) p. 14

EIS Page(s) 6.158-159 (Section 6.18.2) [also 5.12, Section 5.3.1]

Nature of Deficiency

EIS suggests that the project could catalyze land claim negotiations but fail to consider specific rights to land or wildlife resources or to outline possible implications for any co-management component of a negotiated agreement.

Rationale

There is no evidence provided to support the claim that project approval would accelerate land claim negotiations nor any discussion of mechanisms that could provide an incentive to negotiations. Regarding implications for nature rights, at the very least, a discussion is warranted concerning the loss of access to certain lands and the game thereon in areas such as the PTA's and the live weapons range.

It is conceivable that rights to use land will be perceived to be infringed by the requirements to report intended excursions onto the land or by the de facto loss of access resulting from high levels of annoyance associated with noise in the LLT or the access corridors.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 10

Reviewer : D. Cressman

Guideline Section # 6.2.2, p. 16

EIS Page(s) 2-5 (Section 2.2)

Nature of Deficiency

Justification of general siting on Labrador is provided but not of the siting of training areas within Labrador.

Start-time for Component 1 is justified but there are no justification of timing beyond this.

Rationale

Either the EIS should justify the location of LLT areas and corridor or it should formulate and evaluate alternative siting plans.

Timing cannot be justified since no specific info on timing beyong 1996 start date is provided.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 11

Reviewer : D. Crossman

Guideline Section # 6.2.3., p. 17

EIS Page(s) Sections 2.5.2., 5.3.6.,6.17.4

Nature of Deficiency

No documentation of data gathering efforts.

Rationale

EIS does not describe efforts to learn about smaller scale developments such as craft production, tourism, etc. nor does it demonstrate that any attention was given to land use plans.

* To be completed for each major deficiency listed in Form A.

Signature

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 12

Reviewer : D. Cressman

Guideline Section # 6.2.5 pg 17

EIS Page(s) 2-5, 2-6 sec 2.3

Nature of Deficiency

The analysis of alternatives is incomplete, lacks explicit criteria and is general and qualitative.
There is no mention of a "do nothing" alternative nor does the EIS consider alternative elements apart from repeated reference to post-approval site selection for facilities within the LLT areas. Alternative siting of the overall LLT areas (for instance to the West of Goose Bay) are not considered, nor are alternative schedulings of Components 1 and 2.

Rationale

A more rigorous screening and comparative evaluation of alternatives (with and without mitigation) at a greater level of detail would have strengthened the conclusions. As is, alternatives do not appear to have been considered seriously in the EIS.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 13

Reviewer : D. Cressman

Guideline Section # 6.3, p. 18

EIS Page(s) 3-4, (Sec. 3.1.1.1), 3-36, (Sec. 3.2.1.1.)

Nature of Deficiency

Benchmark dates for purposes of analysis are provided but no lifespan data are given.

Rationale

Lifespan data are required to characterize the duration of impacts on communities and thus to help assess significance.

* To be completed for each major deficiency listed in Form A.

Signature

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 14

Reviewer : D. Cressman

Guideline Section # 6.3 p. 18

EIS Page(s) p. 3-4, 3-36 (sec. 3.1.1.1, 3.2.1.1)

Nature of Deficiency

EIS sections cited above document commitments to observe relevant laws and regulations but there is no indication that municipal, provincial or federal authorities have been consulted in order to identify land use plans or regulations, approval requirements, environmental standards and regulations, or other laws or regulations.

Rationale

The EIS places great emphasis on past FEARO site selection and design activity on a means of mitigation yet there is no mention of any existing regulatory framework that would establish public authority to control the conduct of this activity. Other examples of salient issues that are not addressed are: "the bearing of minaral exploration and logging policies and regulations in LLT areas", "the authority of DND to control land use in LLT areas and corridors".

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 15

Reviewer : D. Cressman

Guideline Section # 6.3 p. 18

EIS Page(s) pg 3-7 and 3-40 (sec. 3.1.2.2 and 3.2.2.2)

Nature of Deficiency

No land-use maps of the HV-GB area are provided to show the location of hospitals, schools, residential and commercial areas and future development areas in relation to flight corridors.

Rationale

Lack of appropriate maps makes it very difficult to appreciate the nature of noise impacts since noise contours cannot be superimposed on key receptor locations like schools, homes and the hospital. Consequently the review panel is not advised of critical descriptions such as the number of homes within each noise contour line.

* To be completed for each major deficiency listed in Form A.

Signature

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 16

Reviewer : D. Cressman

Guideline Section # 6.3.1 pg 19 (IV), 6.2.5., p. 17

EIS Page(s) p. 3-6 to 3-9 (see 3.1.2.4)

Nature of Deficiency

The only statement explaining the pattern and frequency of use of flight patterns or of variations in flights is a general comment indicating the feasibility of "flying training missions that are realistic in terms of distance and terrain". There are no details relating for instance to requirements for separation between training mission (time or space), to factor governing altitudes in the corridors, or to the amount of air space required for high speed maneuvers.

Rationale

Without such descriptive information, it is impossible to evaluate critical elements of the project. For instance: why is a 20% expansion of LLT1 required?, how feasible is avoidance in LLT areas?, why is the minimum altitude in corridors set at 250' rather than say 1000'? Could LLT areas be smaller than they are at present?

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 17

Reviewer : D. Cressman

Guideline Section # 6.4, p. 27

EIS Page(s) 6-23 to 6-66 (Sec. 6.4.2. - 6.4.10

Nature of Deficiency

Implications of data gaps are generally not assessed. Examples of data gaps where this is the case include:

- info on noise sensitivity of caribou (p. 6-37), large carnivores (p. 8-44), furbearers (p. 6-46), Marine Mammals (p. 6-61), fish (p. 6-65);
- no ground water data near landfill area (p. 6-90);
- data on productivity of areas used for resource harvest (p. 6-131).

Rationale

Data gaps will wether confound impact prediction or reduce confidence levels of the predictions. Uncertainty may be viewed by some as causing the significance of an impact to increase and it should at least serve to guide monitoring efforts.

There appears to be certain inconsistencies in respect to noted data gaps.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 18

Reviewer : D. Cressman

Guideline Section # 6.4, p. 28

EIS Page(s) 4.8

Nature of Deficiency

Efforts to identify impacts of previous low level flying address noise impacts on HV-GB residents and on resource users, anad air quality impacts. Other opportunities for primary research were not pursued and no rationale is given.

Rationale

Many impact assessments rely on secondary data and qualitative, largely unsubstantiated and unverifiable predictions of change or effect. Any amount of primary research in high impact areas such as corridor would have provided a base of real data with which to strengthen the EIS.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 19

Reviewer : D. Cressman

Guideline Section # 6.4, p. 28

EIS Page(s) p. 4-10 to 4-102 (Secs. 4.8 to 4.20)

Nature of Deficiency

Primary data, compiled for the EIS are generally not scrutinized to discern whether existing exposure to LLT activity has influenced its reliability or representativess for purposes of impact prediction. An important case in point is the public survey results concerning existing consequences of noise for sleep disturbance, communication interference, annoyance. There is no attempt made to identify possible sources of bias in these survey data associated for instance with employment status (military/non-military) or cultural affiliation (nature/non-nature). This is especially problematic in the case of annoynance where survey data is used in place of predictions that could be made using published research results on annoyance.

Rationale

A failure to test the reliability of primary data serves to decrease the confidence in impact predictions based on these data.

* To be completed for each major deficiency listed in Form A.

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 20

Reviewer : D. Cressman

Guideline Section # 6.4.1.1 pg 28

EIS Page(s) p. 4-6 (sec 4.3.1)

Nature of Deficiency

Geological conditions at future construction sites not described (ie. airstrips and Goose Bay vicinity, ACM1 range, other sites).

Rationale

It is not clear whether surface deposits are suitable for the proposed construction activity.

* To be completed for each major deficiency listed in Form A.

Signiture

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 21

Reviewer : D. Cressman

Guideline Section # 6.4.1.1 pg 28

EIS Page(s) p. 4-6 (sec 4.3.1)

Nature of Deficiency

Discussion of surface deposits in 4.3.1 does not constitute a description of mineral deposits.

Rationale

Potential ore bodies within LLT areas should be mapped in order to identify potential for lost mineral development opportunities or conversely the potential for new constraint areas limiting flight training activity.

* To be completed for each major deficiency listed in Form A.

Signature

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 22

Reviewer : D. Grassman

Guideline Section # 6.4.1.3 pg. 29

EIS Page(s) p. 4-20 to 4-22 (sec 4.8.2) & tech. rpt 2

Nature of Deficiency

Key indicators of water quality are not provided :

- bacterial quality of surface and ground water in Mud Lake
- buffering capacity of area lakes or alternatively target acid deposition rates
- no reported ground water data in the vicinity of the land fill where a potential leachate problem is identified (p. 6-90).

Rationale

Impact predictions are entirely speculative if not based on changes from prevailing conditions.

* To be completed for each major deficiency listed in Form A.

Signature

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EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 23

Reviewer : D. Cressman

Guideline Section # 6.4.1.4 pg 29

EIS Page(s) p. 4-54 to 4-59 (sec 4.15)

Nature of Deficiency

The approach to rare and endangered species is not comprehensive or consistent. Raptors are VEC's in part due to the endangered status of some species; wolverines, described as "extremely rare" (p. 4-49) are not VEC's; and there is no discussion of the status of whales. The "status" criteria for identifying VEC's is ambiguous - it seems to encompass both abundant species and rare species as VEC's.

The Eastern Wolverine, Atlantic Gray Whale, Ungara Bay Beluga Whale and the Bowhead Whale are on the World Wildlife Fund endangered list. The EIS mention the Wolverine but does not indicate whether the study area encompasses any range of the three whales in the WWF list.

Rationale

The uneven and ambiguous treatment of species status raises doubts regarding the selection of species as VEC's.

* To be completed for each major deficiency listed in Form A.

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Signature

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 24

Reviewer : D. Cressman

Guideline Section # 6.6

EIS Page(s) Secs 7.6, 7.7

Nature of Deficiency

Mitigation of socio-economic, Health & Safety impacts is discussed at a general level, dealing primarily with overall procedures for planning mitigation rather than with actual mitigation measures. Examples of specific measures that could readily have been addressed at this stage include : compensation to displaced tourist operators, relocation of residents at risk of hearing loss, raising minimum altitudes in the corridors, and prohibitions on hunting/trapping by military personnel.

Rationale

In the absence of a more detailed evaluations of specific remedial measures, there is no opportunity to consider costs, feasibility and remedial impacts in concrete terms. there are for example no estimates of sound exposure with and without mitigation.

* To be completed for each major deficiency listed in Form A.

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Signature

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 25

Reviewer : D. Cressman

Guideline Section # 6.6, pg 33

EIS Page(s) ch. 7

Nature of Deficiency

EIS does not generally identify the costs or feasibility of proposed mitigation measures. There is no indication of the effectiveness of ongoing impact management measures and no evidence provided to indicate the feasibility of avoidance strategies. For example do monthly constraint maps (pg 7-17 to 7-13) indicate that sufficient area remains to satisfy requirements for military training exercises?

Rationale

The results of a systematic monitoring of the effectiveness of ongoing impact management measures would have greatly strengthened the section on mitigation and monitoring. As it is, the analysis begs the question of feasibility and presents a largely unsubstantiated analysis of residual impacts.

* To be completed for each major deficiency listed in Form A.

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Signature

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 26

Reviewer : D. Cressman

Guideline Section # 6.6, p. 34

EIS Page(s) p. 3-35 (Sec. 3.1.9)

Nature of Deficiency

Rationale

Mitigation actions in response to project termination must address the boom-bust phenomena. Measures described in Section 3.1.9 of the EIS are essentially decommissioning actions and not mitigative measures to deal with the "bust".

* To be completed for each major deficiency listed in Form A.

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Signature

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 27

Reviewer : D. Cressman

Guideline Section # 6.7, p. 34

EIS Page(s) p. 8-1 to 8-9 (Secs. 8.1 to 8.3)

Nature of Deficiency

The significance of residual impacts is not determined,

> "It is conceivable that most or all of the predicted [noise] measures could be eliminated through a combination of mitigative measures..." (p. 8-8).

Rationale

Residual biophysical impacts are only described in terms of the schematic rating scheme and not in substance terms relating to specific VEC's. For socio-economic and public health issues, residual impacts are discussed at a general level and the EIS does not provide specific predictions of impaact that reflect the anticipated level of success of mitigation efforts. This is apparent in phrases like:

> "It is to be hoped that [impacts on women, resource users] will be reduced to an acceptable level through dialogue, ..." (p. 8-7).

Given the level of generality, the significance of residual impacts cannot be determined.

* To be completed for each major deficiency listed in Form A.

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Signature

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Date

HARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 28

Reviewer : D. Cressman

Guideline Section # 6.8, p. 34

EIS Page(s) p. 9-1 to 9-10 (Secs. 9.1 to 9.4)

Nature of Deficiency

Details of a proposed monitoring program are not provided, rather, examples of monitoring activities are given. Commitment is made to an overall program but not to specific activities.

Rationale

In the absence of a more detailed proposal, the review panel may not be in a position to evaluate the adequacy of the monitoring proposal.

* To be completed for each major deficiency listed in Form A.

Signature

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 29

Reviewer : D. Cressman

Guideline Section # 6.8, p. 35

EIS Page(s) p. 9-2 to 9-5 (Sec. 9.2)

Nature of Deficiency

There is no clear indication of how findings of a monitoring program will be acted upon in Chapter 9. While there is a commitment to "modify (DND) policies and procedures where necessary", the EIS does not go on to describe the range of responses that this could entail; for instance, can military personnel be prevented from hunting or fishing?

Rationale

In the absence of more detailed information on proposed mitigation and monitoring activity, there is little opportunity to be specific about responses to monitoring data and findings.

* To be completed for each major deficiency listed in Form A.

Signature

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 30

Reviewer : D. Cressman

Guideline Section # 6.8, p. 35

EIS Page(s) p. 9-5, 9-6 (Secs. 9.2.3, 9.3.2.2)

Nature of Deficiency

Inadequate discussion of how to mitigate trans-jurisdictional impacts.

Rationale

Specific examples of trans-jurisdictional issues that could arise include:

- disputes over perceived violation of JBNQA, and
- financing of community or regional services and infrastructure required as a result of the project.

The EIS indicates the need for consultation and coordination but this does not constitute a sufficient indication of how such issues will be resolved.

* To be completed for each major deficiency listed in Form A.

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Signature

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Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. 31

Reviewer : D. Cressman

Guideline Section # 6.8, p. 35

EIS Page(s) p. 9-2 to 9-5 (Secs. 9.2.1, 9.3.1)

Nature of Deficiency

Standardization of methodologies for EIS and monitoring are not addressed.

Rationale

EIS reiterates the need to standardize monitoring and EIS data collection methodologies to ensure comparability of results but does not confirm that elements of the public consultation program (e.g. interviews, public survey) or the noise/air quality studies will be carried forward into the monitoring program (there being the principal compponents of EIS field work).

* To be completed for each major deficiency listed in Form A.

Signature

Date

EARP REVIEW OF MILITARY FLYING ACTIVITIES IN LABRADOR AND QUEBEC

FORM "B"*

Major Deficiency No. _____

Reviewer : D. Cressman

Guideline Section # General

EIS Page(s) _____

Nature of Deficiency

The Letter of Referral (App. I, EIS) is explicit in stipulating the need to address impacts of existing as well as proposed low level flight training:

> "... it is important to also include those issues associated with the current low level flight training and the increased amount of such traiining which will begin in the summer of 1986 and continue for an indefinite period. Although Canada is committed to low level training, I anticipate that the result of a comprehensive review would assist us in designing these activities further to minimize any adverse impact." (pg. 2, App. I).

While the EIS describes noise and other environmental changes associated with existing activities, and also describes baseline biophysical and social conditions, baseline conditions are not generally related back to environmental changes in a way that allows the reader to understand impacts to date on valued ecosystem components.

Rationale

With the execution of certain more obvious impacts (e.g. noise in Sruce Park), efforts to remediate existing impacts cannot be designed if those impacts are not understood.

* To be completed for each major deficiency listed in Form A.

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Signature

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Date